

The New World species of *Ataenius* HAROLD, 1867. VI. Revision of the *A. aequalis-platensis*-group (Coleoptera: Scarabaeidae: Aphodiinae: Eupariini)

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Abstract. The *aequalis-platensis* group of the New World species of *Ataenius* HAROLD is revised. Twenty seven species are recognised including eight species described as new: *Ataenius abancay* **sp. n.**, *A. borjae* **sp. n.**, *A. caicarae* **sp. n.**, *A. cochabambae* **sp. n.**, *A. guanacastae* **sp. n.**, *A. guriensis* **sp. n.**, *A. onkonensis* **sp. n.** and *A. pseudoclavatus* **sp. n.** Six new synonyms are proposed: *A. aequalis* HAROLD, 1880 (= *A. insulicola* CHAPIN, 1940, syn. n., = *A. titschacki* BALTHASAR, 1941, syn. n.); *A. platensis* (BLANCHARD, 1846) [(= *A. heyrovskyi* BALTHASAR, 1960, syn. n., = *A. degallieri* CHALUMEAU, 1990, syn. n.)]; *A. punctipennis* HAROLD, 1868 (= *A. subopacus* CHAPIN, 1940, syn. n.) and *A. setiger* BATES, 1887 (= *A. pseudohirsutus* CARTWRIGHT, 1974, syn. n.) The taxa are diagnosed, keyed and illustrated, available biological information and distribution data are given. A cladistic analysis is presented for the hypothetical relationships among discussed species.

Key words: Scarabaeidae, Aphodiinae, *Ataenius aequalis-platensis* group, new species, taxonomy, phylogeny, New World.

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I. INTRODUCTION

The present paper is the sixth part of revision of the New World species of the genus *Ataenius* HAROLD and deals with *A. aequalis-platensis* group of 27 species ranging from the southern United States to Argentina and West Indies. The previous papers by STEBNICKA 2001, 2002b, 2003a, 2004 and STEBNICKA & LAGO (2005, in press) contain a complete generic diagnosis, descriptions and keys to the 86 species of *Ataenius* hitherto revised and arranged into six species-groups. Therefore, I refer the reader to these publications.

II. COLLECTIONS STUDIED

Approximately 6000 specimens of *Ataenius aequalis-platensis*-group have been selected from an extensive material of Aphodiinae hitherto studied including all type-specimens available to the author. Several species revised herein are represented by long series of specimens collected on many localities that are plotted on schematic maps.

The following institutions and private collections kindly contributed material for this study. The abbreviations listed below are used in all text citations:

AMNH	American Museum of Natural History, New York, USA
ANSP	Academy of Natural Sciences of Philadelphia, Pennsylvania, USA
CEUA	Collection of Entomology, University of Alicante, Spain
CFC	C. FLECHTMANN Collection, Brasilia, Brazil
CMNO	Canadian Museum of Nature, Ottawa, Canada
FMLT	Fundacion MIGUEL LILLO, Tucumán, Argentina
FSCA	Florida State Collection of Arthropods, Gainesville, USA
FVMC	F. VAZ-DE-MELLO Collection, Viçosa, Brazil
HAHC	H. & A. HOWDEN Collection, Ottawa, Canada
HNHM	Hungarian Natural History Museum, Budapest, Hungary
ISEA	Institute of Systematics and Evolution of Animals PAS, Krakow, Poland
MCZC	Museum of Comparative Zoology, Harvard University, Cambridge, USA
MGFT	Museum Georg FREY, Entomologisches Institut, Tutzing b. München, Germany
MLUH	Martin LUTHER Universität, Halle-Wittenberg, Germany
MHNG	Muséum d'histoire naturelle, Geneva, Switzerland
MNHN	Museum National d'histoire naturelle, Paris, France
MMU	Museum of Manchester, The University, Manchester, England
MSNUP	Museo di Storia Naturale, Università di Pisa, Calci, Italy
MSUC	Mississippi State University Collection, Starkville, USA
MZUSP	Museu de Zoologia, Universidade de São Paulo, Brazil
NHML	Natural History Museum, London, England
NMP	National Museum (includes BALTHASAR's collection), Prague, Czech Rep.
NRS	Naturhistoriska Riksmuseet, Stockholm, Sweden
PKLC	P. K. LAGO Collection, Biology Department, University of Mississippi, USA
PSC	P. SKELLEY Collection, Gainesville, Florida, USA
RTC	R. TURNBOW Collection, Gainesville, Florida, USA
TMP	Transvaal Museum, Pretoria, South Africa
UNSM	University of Nebraska State Museum, Lincoln, USA
USNM	United States National Museum of Natural History, Washington DC, USA
ZMHB	Zoologisches Museum für Naturkunde der Humboldt Universität, Berlin, Germany
ZSM	Zoologische Staatssammlung, Munich, Germany

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III. TAXONOMY AND CLADISTIC ANALYSIS

Ataenius aequalis-platensis group

D i a g n o s t i c c h a r a c t e r s. Approximate length 2.1-6.0 mm. Body (Figs 1-4) parallel-sided or oblong oval, moderately convex, mostly glabrous, shiny. Head moderate in size with rare exceptions, moderately gibbose medially, genae prominent; clypeal edge usually rounded on each side of median emargination, in some species or specimens subangulate or denticulate; clypeal surface in most species transversely wrinkled, vertical area of head finely punctate. Pronotum evenly convex, transverse, margined basally, lateral margin usually fringed with setae of various lengths, surface with two or three kinds of punctures. Scutellum triangular. Elytra parallel-sided or arcuate, finely margined basally, humeral denticles fine; elytral striae more or less distinctly impressed, stria punctures fine to moderate; intervals flat or convex, in some species setigerous. Ventral surface glabrous, abdominal sternites finely fluted along sutures and usually impunctate at middle, sometimes setigerous laterally, disc of pygidium eroded. Profemoral surface shiny, punctate; meso- and metafemora punctate or smooth, postfemoral lines incomplete or absent; meso- and metatibiae slender, apex of metatibia with slender spurs and fringe of very short setae, fine accessory spine present or lacking; tarsi slender, basal tarsomere of metatarsus longer than upper tibial spur, equal in length or shorter and usually shorter than following tarsomeres together.

External sexual differences variable. The males of most species have the terminal spur of protibia hooked inwardly, or slightly bent downward or sinuate, the pronotal punctures less dense than in females especially at middle of disc, and the clypeal surface less distinctly sculptured. Like in the other species-groups of *Ataenius*, the males of all species have the penultimate abdominal sternite shorter and less deeply fluted than in females and disc of pygidium longer. Male genitalia (Figs 7-15) are usually well differentiated, mostly those of *aequalis* type with variously shaped apices of the parameres, while those of *platensis* type are lightly sclerotized with almost parallel-sided, apically rounded and weakly diversified parameres, similar to those of *Ataenius strigicauda*-group (STEBNICKA 2004). The epipharyngeal structures are very weakly differentiated specifically and do not differ from the general type characteristic for the other *Ataenius*-species.

R e m a r k s. The group includes 27 presently recognised species that are very similar externally with overlapping characters and very advanced variability in external morphology. Complete data on their distribution and available biological information are given. Under species descriptions, all characters defining the group are presumed to apply, unless stated otherwise.

Key to the species of *A. aequalis-platensis* group

- 1 Clypeus distinctly dentate on each side of median emargination 2
- Clypeus sharply angulate, obtusely angled or widely rounded on each side of median emargination 4
- 2(1) Body dark brown to piceous; clypeal surface with fine transverse wrinkles; pronotal margin fringed with thick blunt setae separated by less than their lengths. Southern South America *A. clavatus* SCHM.
- Body ferruginous to castaneous; clypeal surface with coarse transverse rugulae; pronotal margin fringed with slender setae separated by their lengths or more 3
- 3(2) Pronotum with mixed fine and coarse, irregularly spaced punctures, base slightly lobed medially; abdominal sternites on sides and apical lip of pygidium with short setae. Southern USA, Mexico. *A. desertus* HORN
- Pronotum with moderate, uniformly distributed punctures throughout, base straight; abdominal sternites glabrous. South America *A. clitellarius* PETR.

- 4(1) Clypeus more or less sharply angulate (may be obtuse); elytra elevated medially; abdominal sternites on sides with long, scarce, pale setae. Southern USA, Central America, Venezuela, Trinidad *A. languidus* SCHM.
 – Clypeus sharply angulate or widely rounded; elytra not elevated medially; abdominal sternites glabrous 5
- 5(4) Pronotum with coarse punctures concentrated around smoother, finely uniformly punctate median anterior disc 6
 – Pronotum with mixture of fine and moderate, everywhere distributed punctures 8
- 6(5) Body light castaneous; clypeus sharply finely angulate. Central America *A. pseudousingeri* GAL. & al.
 – Body piceous to black; clypeal margin widely rounded 7
- 7(6) Body shiny; coarse pronotal punctures on sides separated by less than one their diameter. Central America. *A. usingeri* HINT.
 – Body dull; coarse pronotal punctures on sides separated by one their diameter or more. Peru *A. abancay* sp. n.
- 8(6) Clypeal margin more or less obtusely angled; terminal spur of protibia in male slightly bent downward or inward 9
 – Clypeal margin widely rounded; terminal spur of protibia in male straight or variably curved 10
- 9(8) Body elongate, castaneous; pronotum with fine and moderate punctures, the latter widely spaced on disc; elytra shiny; basitarsomere of metatarsus longer than upper tibial spur. Southern USA to Argentina. *A. platensis* (BLANCH.)
 – Body oblong oval, piceous to black; pronotum with fine and moderate to coarse punctures, the latter close on disc; elytra dull; basitarsomere of metatarsus shorter than upper tibial spur (may be equal in length). Louisiana, Central and South America, West Indies *A. aequalis* HAR.
- 10(8) Clypeus with unequal in size, irregularly spaced punctures without transverse rugulae; posterior angles of pronotum truncate, punctures moderate, uniformly distributed throughout; elytra reddish brown. Brazil *A. lenkoi* PETR.
 – Clypeus with weak to strong transverse rugulae; posterior angles of pronotum rounded or obtuse, punctures mixed fine and moderate to coarse, the latter irregularly spaced; body unicolored 11
- 11(10) Body elongate; moderate to coarse punctures of pronotum widely scattered on disc, separated by more than 4 times their diameters; abdominal sternites on sides with fine pale setae 12
 – Body oblong oval; moderate to coarse punctures of pronotum close on disc, separated by 1-3 times their diameters; abdominal sternites without setae 13
- 12(11) Pronotal base lobed medially; abdominal sternites on sides with fine shallow punctures; color piceous. Southeastern USA, Mexico *A. lobatus* HORN
 – Pronotal base unlobed medially, straight; abdominal sternites on sides with deep longitudinal punctures. Central America *A. castaniellus* BATES
- 13(11) Elytra with lateral intervals 7-10 tectiform to carinate. Venezuela *A. guriensis* sp. n.
 – Elytra with lateral intervals 7-10 convex to flat 14
- 14(13) Small species, length to 3.0 mm, body strongly convex medially; pronotal punctures close, mixed minute, fine and moderate. Venezuela *A. caicarae* sp. n.
 – Larger species, length above 3.0 mm, body moderately convex; pronotal punctures of various size and spacing 15
- 15(14) Elytral lateral intervals 7-10 with fine scattered punctures or impunctate 16
 – Elytral lateral intervals 7-10 closely, roughly punctate 17
- 16(15) Clypeus distinctly transversely wrinkled, genae small obtuse; pronotum subquadrate; South America, Panama *A. koelleri* BALTH.
 – Clypeus minutely, scarcely punctate without wrinkles, genae large, prominent; pronotum strongly transverse. Ecuador *A. onkonensis* sp. n.
- 17(15) Clypeus with weak transverse wrinkles; pronotal base excised at posterior angles; elytra with single humeral denticle. South America. *A. plaumanni* PETR.

- Clypeus minutely punctate, without wrinkles; pronotal base straight, not excised; elytra with double humeral denticles 18
- 18(17) Head broad; elytra with lateral intervals roughly sculptured, often swollen, lacking setae. South America *A. depilis* PETR.
- Head moderate in size; elytra with lateral intervals closely punctured and minutely setigerous 19
- 19(18) Humerus with strong carina between 7th elytral interval and epipleural angle, elytral margin from base to apex distinctly crenulate. Central America *A. guanacastae* sp. n.
- Humerus finely denticulate without carina; elytral margin smooth 20
- 20(19) Elytra entirely or partially setaceous 21
- Elytra glabrous 23
- 21(20) Pronotal punctures nearly equal in size, uniformly distributed throughout; elytra covered with short, close, depressed setae, intervals with rows of fine punctures along striae; terminal spur of protibia in male hooked inwardly at the tip. South America, West Indies *A. punctipennis* HAR.
- Pronotal punctures mixed fine and coarse, the latter shallow, irregularly spaced; elytral setae different, intervals (at least lateral ones) with row of deep punctures along striae; terminal spur of protibia in male slightly bent downward 22
- 22(21) Clypeal margin subangulate; elytra entirely or only in half covered with long upright setae. USA, Mexico *A. hirsutus* HORN
- Clypeal margin rounded; elytra on sides and at apex or only at apex with short, scarce setae. USA, Mexico *A. setiger* BATES
- 23(20) Body opaque; antennal club longer than funicle; pronotal base widely deeply grooved; metatibia flattened dorsoventrally. Brazil *A. longiclavus* PETR.
- Body weakly or strongly shiny; antennal club shorter than funicle; pronotal base finely margined, without groove; metatibia cylindrical 24
- 24(23) Pronotal lateral margin fringed with thick palisade setae; tarsomeres of metatarsus robust; eroded disc of pygidium longitudinally strigose 25
- Pronotal lateral margin fringed with slender, hair-like setae; tarsomeres of metatarsus slender; eroded disc of pygidium finely shagreened 26
- 25(24) Body opaque; pronotum closely punctate, slightly swollen; elytral striae narrow and shallow, intervals slightly elevated medially. Argentina *A. pseudoclavatus* sp. n.
- Body shiny; pronotum evenly smooth with irregularly spaced fine to moderate punctures; elytral striae distinctly impressed, intervals flat. Argentina *A. variopunctatus* SCHM.
- 26(24) Length 3.0-3.2 mm; pronotal punctures on disc separated by about one their diameter; terminal spur of protibia in male hooked inwardly at the tip. Bolivia *A. borjae* sp. n.
- Length 4.0-4.2 mm; pronotal punctures on disc separated by about 2-3 times their diameters; terminal spur of protibia in male straight. Bolivia *A. cochabambae* sp. n.

Ataenius aequalis HAROLD

(Figs 1, 5, 7)

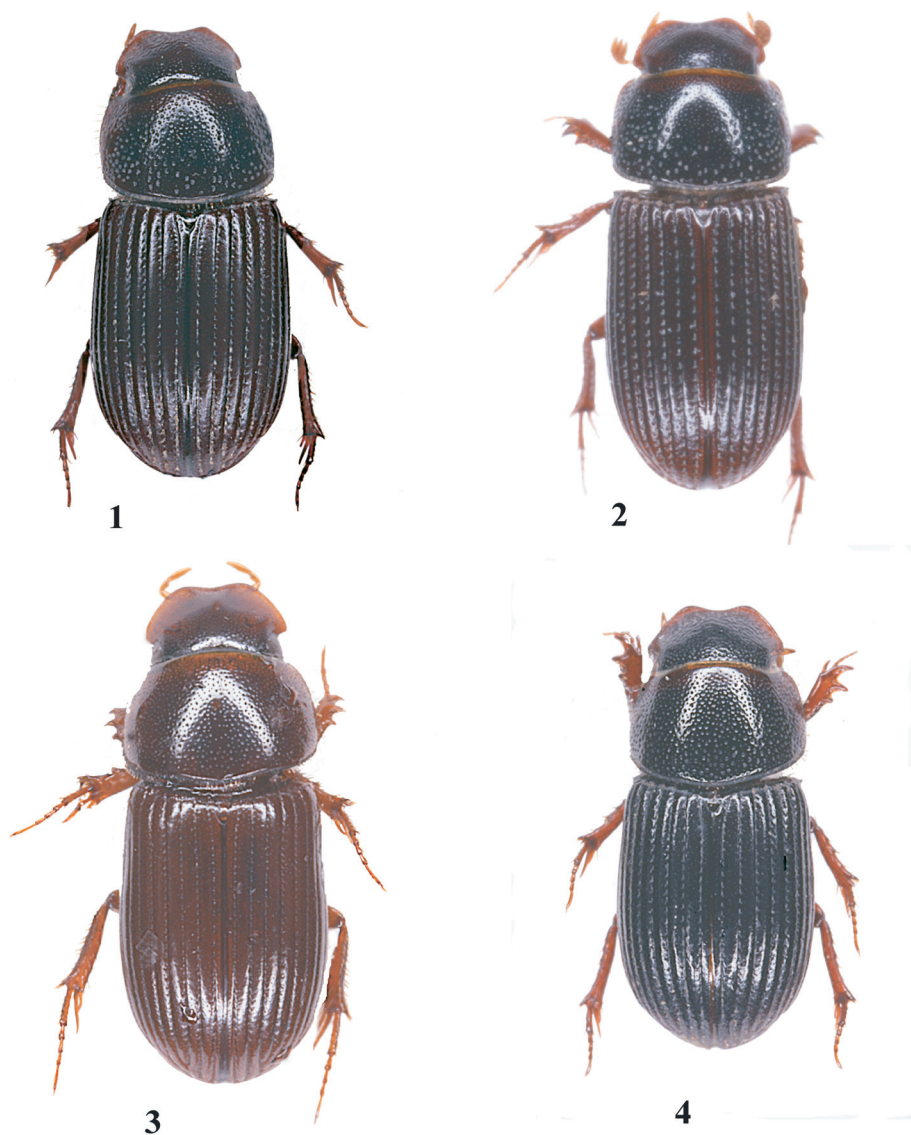
Ataenius aequalis HAROLD, 1880: 40.- SCHMIDT 1922: 435; CARTWRIGHT 1974: 78-79, fig. 24; DELLACASA 1988: 83 (catalogue); GALANTE & STEBNICKA & VERDÚ 2003: 294.

Ataenius insulicola CHAPIN, 1940: 28.- DELLACASA 1988: 276 (catalogue), **syn. n.**

Ataenius titschacki BALTHASAR, 1941: 167-168.- DELLACASA 1988: 282 (catalogue), **syn. n.**

M a t e r i a l e x a m i n e d. *Ataenius aequalis*: Lectotype (Colombia, Ambalema) designated by CARTWRIGHT (1974), in MNHN. *Ataenius insulicola*: Holotype female, labeled 'St Vincent BWI 23.II.36', 'Sta 185 BLACKWELDER', '*Ataenius insulicola* det CHAPIN 1933', 'Type No 53325 USNM'. *Ataenius titschacki*: described from Argentina, Mendoza. Type lost in 1943 (Hamburg Museum). Paratype, same data as holotype (seen in 1973), in coll. BALTHASAR, NMP.

Other specimens (790). **Argentina** – Prov. Misiones, Mado; Prov. Chaco, 100 km NW Resistencia, Chaco Nat. Park; Prov. Salta, Cabara Corral. **Belize** – Belize City; Cayo distr., San Ignacio.



Figs 1-4. Dorsal view: 1 – *Ataenius aequalis* HAR.; 2 – *A. abancay* sp. n.; 3 – *A. borjae* sp. n.; 4 – *A. caicarae* sp. n.

Bolivia – Guayaramerin (Beni); Mamore River; Santa Cruz, Sara, 700 m; Santa Cruz, Buena Vista; Santa Cruz, 5 km ESE Warnes. **Brazil** – (Go) Bela Vista de Goiás; Cristianópolis; (MG) Minas Gerais, Cordisburgo, Faz. Pontinha; Paracatu; Aguas Vermelhas; Teixeiras. (Ro) Rondonia, 62 km SW Ariquemes nr Faz. Rancho Grande. (MT) Mato Grosso, Jacare Nat. Park; Rosario Oeste; Xingu; Rio Verde; Corumbá; Rio Papagaio; Chapada dos Guimaraes; Mun. Diamantino, São João, Serra do Tombador; (MS) Mato Grosso do Sul, Campo Grande; (SP) São Paulo, São Roque, Itatuba 950 m; Piracicaba; Pereira Barreto, Vale do Paraíso Farm; Bocaina. (Rr) Roraima, Boa Vista. (Pi)

Piauí, Teresina. (Ba) Bahia, Encruzilhada, Caravelas. (Ac) Acre, Rio Branco. **Colombia** – Canca-thal; Bogota; Ibaque. **Costa Rica** – La Pacifica nr Cañas. **El Salvador** – Santa Ana, Volcan San Di-ego. **Guatemala** – Baja Verapaz, 6 km S Purulha 1660 m. **Guyana** – Ituni. **Honduras** – Olancho, Serra de Agalta NP, 1000 m; Olancho, NP La Muralla; Morazan, 25 km SW Talanga, Finca la Ar-chaga; Morazan, Cerro Uyuca 1100 m; El Paraiso, Cerro Apaguís; Cortes NP, Cerro Azul. **Mexico** – Nuevo Leon, Monterrey; Klier; Veracruz, Hueyapan, Los Tuxtlas, Lake Catemaco, 19 mi NE To-tutla; Atoyac; Oaxaca; Santekomapan; Chiapas, nr Palenque, Nat.Park Laguna Belgica; 20 km S Palenque; Guerrero nr Ixtapa. **Panama** – Las Cumbres; Jathmus Matachin; Canal Zone: El Gulick, Cardenas Villago, La Boca, Fort Kobbe, Madden Dam, Soberania Nat. Park; Prov. Colón, Sherman Pavon Hill; Chiriquí, Chiriquicito, El Llano Corti; Cocle, Altos de Campana. Paraguay – Villarica, Independencia; Puerto P. Stroessner; Vaca Ihu 24.35S, 56.35W.; Narra do Tapirape; Central, Asun-ción. **Venezuela** – Edo Guarico, Calabozo; 12 km W Valle de la Pascua; Sucre, 5 km SW Cumana; Guatamare; Bolivar, 20 km SW Ciudad Bolivar; Bolivar, 25 km S Tumeremo; Bolivar, 35 km SW Puerto Ordaz; Zulia, Puerto Tarra, Encontrada. **West Indies** – St Vincent; Trinidad (Tunapuna, Morne Bleu, Port of Spain, Emperer Valley 200 m); Guadeloupe.

Specimens are in all collections studied.

D i s t r i b u t i o n. USA - Louisiana (only record: CARTWRIGHT 1974); Central and South America, West Indies (Fig. 5).

D i a g n o s t i c c h a r a c t e r s. Length 3.5-5.0 mm. Body (Fig. 1) oblong-oval, convex, weakly shiny, color usually piceous. Clypeal surface with weak to distinct transverse rugu-lae, clypeal margin usually subangulate on each side of deep median emargination, in some speci-mens right-angled, in some obtuse. Pronotum rectangular, anterior and posterior angles obtusely



Fig. 5. Distribution of *Ataenius aequalis* HAR.

rounded, sides and base margined, crenate-fimbriate, marginal setae noticeable laterally, twice as long as distance between them; surface with close, mixed moderate and very fine punctures throughout, punctures variable in size and spacing, usually the larger punctures generally separated by their diameter or less, closer at anterior angles. Elytra convex, two times or two and one-half times length of pronotum, surface almost always microreticulate and weakly shiny, humeri finely denticulate; striae fine, deep, crenate-punctate; discal intervals convex or flat, convex to subcarinate apically, lateral intervals not different or only slightly more convex than the remaining, sometimes with fine scattered punctures. Mesosternum shagreened, metasternal midline impressed, surface punctures minute to fine; abdominal sternites microreticulate, finely fluted along sutures and uniformly, shallowly, moderately punctate, in some specimens punctures at middle are finer than those on sides of sternites; pygidium in most cases with very fine longitudinal carina on deeply eroded disc. All femora shiny, minutely to finely punctate or impunctate; meso- and metatibiae slender, posterior tibial fringe with group of 5-6 short setae and, in some specimens, with minute accessory spine; basal tarsomere of metatarsus usually shorter than upper tibial spur and subequal to following three tarsomeres combined. In male, terminal spur of protibia a little shorter than in female, usually slightly bent inwardly; parameres of aedeagus truncate apically, each with well visible filament (Fig. 7).

R e m a r k s. The species is extremely variable, in many cases difficult to distinguish from many other species of *aequalis-platensis* group. Geographic variation in the large series of specimens examined occurs in several characters including size, proportion and sculpture of the body. The specimens collected in Argentina (Salta) have coarser pronotal punctures and more robust body than those from other localities, the specimens from the West Indies are usually smaller and more slender. However, a very characteristic shape of the male genitalia easily distinguishes *A. aequalis*. As indicated on the labels, the species was collected through all months to light traps in woodland areas, found in litter at forest edges, in excrements on pastures and in *Nelore* droppings, in fungi and under bark, sifted from beach scrubs and from *Typhonium trilobatum* (L.).

***Ataenius abancay* sp. n.**

(Figs 2, 8, 16)

Holotype male, Peru, Apurimac Abancay, 25.II.1979, W.E. STEINER, in USNM. Paratypes (4): 3 – same data as holotype; 1 – Cuzco, Limatambo, 11.II.1979, W.E. STEINER. Paratypes are in ISEA, USNM.

D e s c r i p t i o n. Length 4.0-4.3 mm. Body (Fig. 2) oblong, convex, shiny, piceous, anterior of clypeus and legs reddish. Head small, gibbose medially, clypeal margin widely rounded on each side of deep, narrow median emargination, sides straight toward obtuse genae; surface transversely wrinkled up to median convexity, vertical area with fine scattered punctures. Pronotum convex, sides and base margined, lateral edge crenate, fringed with slender, apically truncate setae separated by less than their lengths and decreasing in length toward posterior angles; surface punctures of two types, fine punctures evenly distributed, equally spaced on median anterior disc, separated by about 3 times their diameters, coarse punctures concentrated on sides and widely spaced along base, lacking on disc, in some specimens very few moderate punctures scattered on disc. Scutellum shiny impunctate. Elytra with distinct basal bead and fine humeral denticles; striae narrow, deep, stria punctures transversely crenate margins of intervals; intervals slightly convex, minutely scarcely punctate or impunctate, lateral intervals not different. Ventral surface shiny; mesosternum shagreened, meso-metasternal carina strong; metasternal midline deep, disc finely punctate, lateral area and metasternal triangle shiny; abdominal sternites with moderate fluting along sutures and punctures concentrated mostly on sides; disc of pygidium deeply eroded with shiny lip. All femora shiny; profemoral punctures moderate in size, close; meso- and metafemora with scattered minute punctures and 2-3 coarse punctures apically; posterior line of metafemur complete; terminal spur of protibia in both sexes slender; meso- and metatibiae slender, expanded apically and setaceous; apex of metatibia with fine accessory spine and slightly sinuate spurs; tarsi slender, basal tarsomere of

metatarsus slightly longer than upper tibial spur and subequal to following four tarsomeres combined. In male, penultimate abdominal sternite shorter than in female; genitalia as in Fig. 8.

A f f i n i t y. *Ataenius abancay* sp. n. is most closely related to *A. usingeri* and *A. pseudousingeri*. It differs from both these species by having the clypeal margin widely rounded, the pronotum with coarser punctures and lateral fringe of thicker setae and the elytra more slender and less shiny. The moderate to coarse punctures around the smoother, finely punctate median anterior disc of the pronotum characterize these three species.

***Ataenius borjae* sp. n.**

(Figs 3, 6, 9)

Holotype male, Bolivia, Beni, 40 km E San Borja, Estacion Biologica Beni, Estancia El Porvenir, 6-8.IX.1987, at black light, open grass savanna and marsh, W.E. STEINER, in USNM. Paratypes (19): 18 – same data as holotype; 1 – Bolivia, Santa Cruz, Buena Vista 380 m, 20.II.1999, mercury vapor light, L. STANGE. Paratypes are in FSCA, ISEA, USNM.

D e s c r i p t i o n. Length 3.0-3.2 mm. Body (Fig. 3) oblong oval, moderately convex, glabrous shiny; colour dark castaneous, anterior of clypeus, sides of pronotum, ventral surface and legs reddish. Head rather small, weakly convex medially, clypeal margin obtusely rounded on each side of shallow median emargination, sides straight toward right-angled, prominent genae; surface slightly alutaceous, very finely, evenly punctate, punctures generally separated by about 1-2 times their diameters. Pronotum transverse, sides and base very finely margined, fringed with hair-like, truncate setae separated by less than their lengths; sides slightly arcuate to obtusely rounded posterior angles; surface punctures of two types, punctures everywhere dispersed, mixed fine and

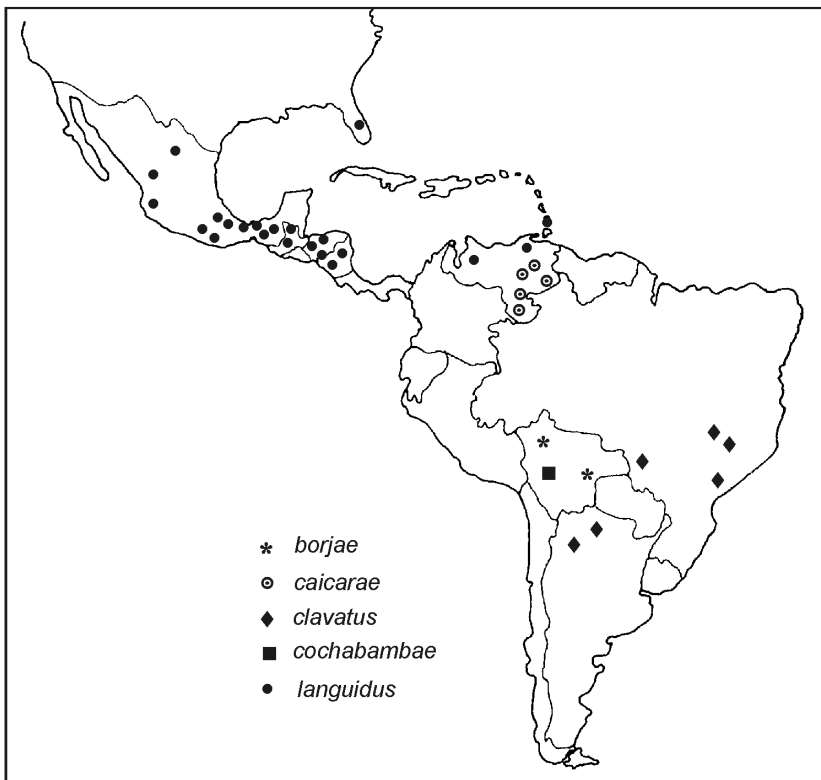
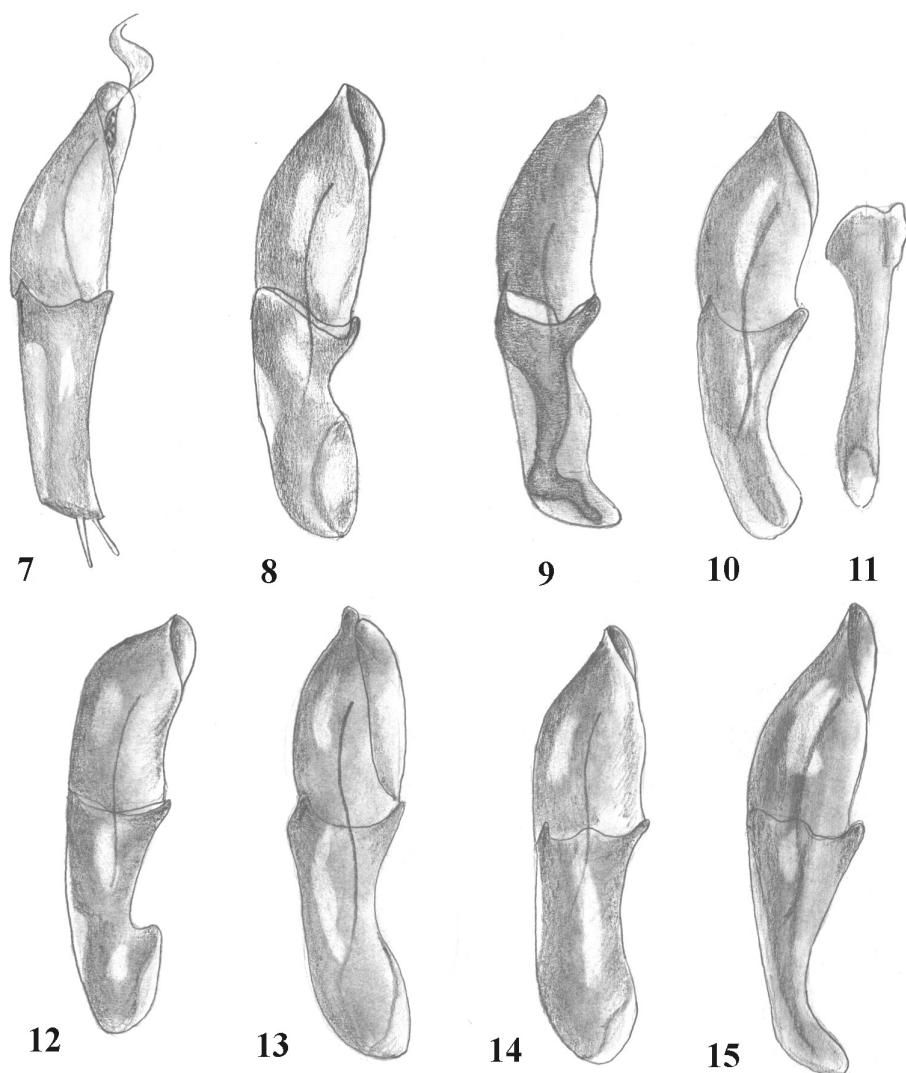


Fig. 6. Distribution of *Ataenius borjae* sp. n., *A. caicarae* sp. n., *A. clavatus* SCHM., *A. cochabambae* sp. n., *A. languidus* SCHM.



Figs 7-15. Male genitalia: 7-9 – aedeagus in lateral view: 7 – *Ataenius aequalis* HAR., 8 – *A. abancay* sp. n., 9 – *A. borjae* sp. n.; 10, 11 – *A. caicarae* sp. n.: 10 – aedeagus in lateral view, 11 – left paramera ventrally; 12-15 – aedeagus in lateral view: 12 – *A. castaniellus* BATES, 13 – *A. clavatus* SCHM., 14 – *A. clitellarius* PETR., 15 – *A. cochabambae* sp. n.

slightly larger, generally separated by 1 their diameter or less. Scutellum narrowly triangular, shiny. Elytra parallel-sided, relatively short, about 2.3 times as long as pronotum, base very finely margined, humeral denticles minute or invisible; elytral striae very fine, narrow, stria punctures fine and shallow, weakly crenating inner margins of intervals; intervals flat or slightly convex, 7th interval markedly convex apically and prolonged to united intervals 4-5. Ventral sclerites shining; mesosternum convex, shagreened; metasternal midline impressed, surface smooth from side to side with very fine scattered punctures, lateral metasternal triangle feebly indicated; abdominal sternites glabrous shining with minute scattered punctures, sutures minutely fluted on sides, sternite 5 finely fluted at middle; disc of pygidium eroded with wide apical lip. Legs slender; profemur with fine

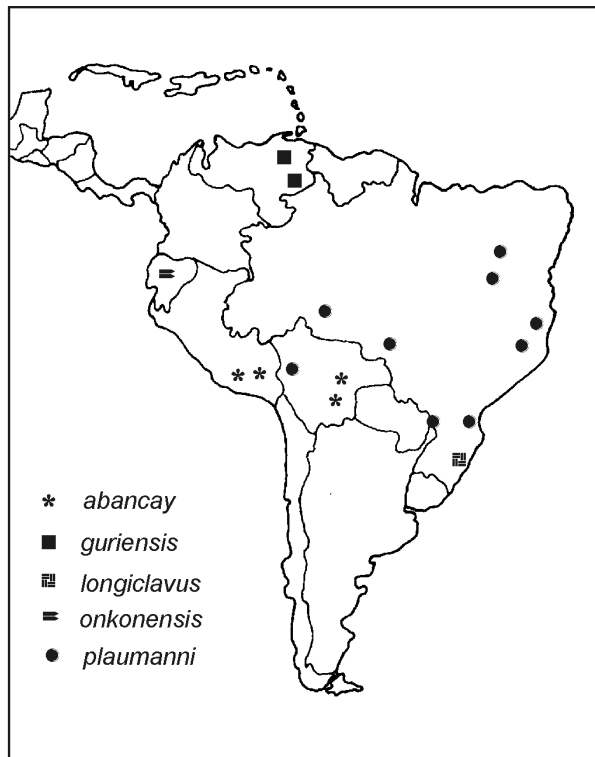


Fig. 16. Distribution of *Ataenius abancay* sp. n., *A. guriensis* sp. n., *A. longiclavus* PETR., *A. onkonensis* sp. n., *A. plaumanni* PETR.

perimarginal groove; meso- and metafemora impunctate shiny, postfemoral lines feebly marked in apical fourth; tibiae slender, setaceous; apex of metatibia with fringe of 8-9 short setae without accessory spine; tarsi relatively long, basal tarsomere of metatarsus slightly longer than upper tibial spur and subequal to following three tarsomeres combined; 5th tarsomere equal in length to preceding two tarsomeres together. In male, terminal spur of protibia hooked inwardly at the tip; genitalia as in Fig. 9.

A f f i n i t y. *Ataenius borjae* together with *A. cochabambae* sp. n. form a separate cluster (Fig. 51) of species having a general appearance similar to that of some species of *Aphodius* ILLIGER and to some West Indian species of the *A. terminalis*-group (STEBNICKA 2001). *A. borjae* differs from *A. cochabambae* by its smaller size, the pronotum with denser punctures, the relatively shorter elytra and by the shape of male aedeagus.

***Ataenius caicarae* sp.n.**

(Figs 4, 6, 10-11)

Holotype male, Venezuela, Bolivar, 15 km E of Caicara, 12-13.VI.1996, light trap, H. & A. HOWDEN, in CMNO. Paratypes (16); 7 – same data as holotype; 5 – same locality, 12.VI.1996, H. & A. HOWDEN; 1 – Bolivar, 25 km SW Pto Ordaz, 21.VI.1996, sandy woodland, S. & J. PECK; 1 – Bolivar, 22 km E Maripa, 13.VI.1996, H. & A. HOWDEN; 1 – Bolivar, Rio Caura rainforest, 10 km N Corocito, 18.VI-3.VIII.1987, S. & J. PECK; 1 – Bolivar, Cuchivero, 30 km SE Caicara, 4.VIII.1987, woodland, S. & J. PECK. Paratypes are in: CMNO, ISEA.

D e s c r i p t i o n. Length 2.1-3.0 mm. Body (Fig. 4) oblong oval, strongly convex medially, shiny, colour piceous, legs reddish. Head rather small, gibbose medially; clypeal margin obtusely rounded on each side of median emargination and laterally slightly arcuate toward rather small genae; surface rather coarsely transversely rugulose up to median convexity, frons and vertex finely, not closely punctured. Pronotum strongly convex, sides and base margined, lateral edge finely crenulate, fringed with blunt setae separated by less than their lengths, basal marginal setae twice shorter than those on sides, separated by less than their lengths; pronotal surface densely punctate throughout, punctures mixed minute and fine to moderate, the latter everywhere distributed, separated by 1-3 times their diameters. Scutellum narrowly triangular, smooth. Elytra slightly arcuate with small, obtuse epipleural denticle; striae finely impressed with shallow punctures slightly crenating margins of intervals, lateral striae not different; intervals variable in shape, in most typical specimens discal intervals convex, lateral slightly raised medially, in some specimens all intervals equally convex, surface of all intervals almost impunctate. Ventral sclerites shining; mesosternum shagreened, metasternal disc longitudinally concave, shining, punctures minute; abdominal sternites very finely fluted along sutures, fluting medially short and fine, on sides longer and coarser; surface punctures fine and shallow only on sides. All femora shining; profemur with moderate, scattered punctures, meso- and metafemora without posterior lines; meso- and metatibiae slender, apex of metatibia with fringe of 8-9 short setae, without accessory spine; basal tarsomere of metatarsus subequal to upper tibial spur and shorter than following three tarsomeres combined. In male, terminal spur of protibia longer than in female, hooked inwardly at the tip; genitalia as in Figs 10-11.

A f f i n i t y. *Ataenius caicarae* is most closely related to *A. aequalis* and *A. guriensis*; it differs from both these species by its smaller size, the more rounded clypeal margin and the shape of male genitalia, however, other external characters of these species overlap.

Ataenius castaniellus BATES

(Figs 12, 35)

Ataenius liogaster var. *castaniellus* BATES, 1887: 95.

Ataenius castaniellus: HINTON 1937: 194; DELLACASA 1988: 106 (catalogue: as synonym of *cognatus*!); GALANTE & STEBNICKA & VERDÚ 2003: 296-297.

Ataenius castaniellis (sic!): DELOYA 1994: 47 (nota).

T y p e d a t a. Described from Guatemala (Zapote, San Geronimo); holotype in NHML.

M a t e r i a l e x a m i n e d. Specimens (226). **El Salvador** – Los Chorros, 4 km S Santa Tecla, 7.V.1971, H. & A. HOWDEN (CMNO). **Guatemala** – Zacapa, 5 km SW Rio Hondo 300 m, 11.VI.1993, Rio Hondo, 2.VI.1991, H. & A. HOWDEN (CMNO, ISEA). **Honduras** – F. Morazan, 30 km SE Tegucigalpa, Zamorano, 9.VI.1994, 64 km SE Zamorano, 17.V.1994, 15 km N Zamorano, San Juan del Rancho 1499 m, 26.V.1994, 30 km E Tegucigalpa, Cerro Uyuca Rd. 1750 m, 20.V.1993, H. & A. HOWDEN (CMNO). **Mexico** – Oaxaca, Oax., 22.VI.1968, G. Pollard; Oaxaca, 1590 m, Pueblo Nuevo, 1-12.VIII.1986; Oaxaca, 8 km S Suchixtepec, 10.VIII.1986, H. & A. HOWDEN (CMNO, ISEA); Cuicatlan, 3, 15.VII.1999, E. GALANTE; Cuicatlan, Valerio Trujano, 15.VII.1999, E. GALANTE (CEUA); Puebla, Zapotitlan, Salinas, Jardin Botanico, 9.VII.1999, E. GALANTE; Tehuacan, Altepexi 1125 m, M. MORON (CEUA); Veracruz, Dos Rios, 18.VII.2000, J.R. VERDÚ (CEUA); Tamaulipas, Cd Victoria, Rancho La Roja, 30.VIII.1981, RATCLIFFE & MESSENGER (UNSM)).

D i s t r i b u t i o n. Central America (Fig. 35).

D i a g n o s t i c c h a r a c t e r s. Length 4.0-5.0 mm. Body elongate oblong, moderately convex, dark castaneous, shining. Head rather small, convex, clypeal margin broadly rounded on each side of wide, moderately deep median emargination, laterally weakly arcuate to right-angled gena; surface with conspicuous wrinkles up to median gibbosity, punctures of vertex minute to fine, scattered. Pronotum transverse, margined, lateral margin grooved; all angles

rounded, side margin fringed with slender, truncate, moderately long setae separated by less than their lengths; surface punctures variably spaced, usually fine punctures evenly distributed, moderate to coarse punctures usually lacking on median anterior disc and scattered posteriorly, sometimes only few punctures along base become closer and more numerous halfway to sides, separated by 1-3 times their diameters. Elytra parallel-sided with fine humeral denticles; striae narrow deep, stria punctures more or less distinctly crenate inner margins of slightly convex, minutely punctate or impunctate intervals, lateral intervals not different. Ventral sclerites shiny; mesosternum shagreened, covered with appressed hair; metasternum everywhere smooth and shiny, minute punctures scattered; abdominal sternites finely fluted and smooth at middle with slightly longitudinal but shallow, close punctures on sides bearing minute pale setae; pygidial disc deeply eroded with rough sculpture. Legs moderate in length; all femora smooth shining except few setigerous punctures at apex of meso- and metafemora, posterior marginal lines fine of variable length; protibial terminal spur straight in both sexes; metatibia slender, apex with fringe of short setae; basitarsomere of metatarsus a trifle longer than upper tibial spur and shorter than following tarsomeres together. Male genitalia as in Fig. 12.

Remarks. *Ataenius castaniellus* may be easily confused with the extremely variable *A. platensis*, sharing with that species an overall appearance and colour of the body. It differs from *A. platensis* by having the widely rounded clypeal margin, the pronotal punctures coarser and the abdominal sternites with setigerous punctures on sides. The females of *A. castaniellus* are also similar externally to the females of *A. liogaster* BATES from the *A. strigatus*-group (STEBNICKA & LAGO 2005), and have been originally described by BATES (1887) as a variety of *A. liogaster*. The species seems to occupy a small area of Mesoamerica; it is attracted to light in a great number of specimens, also found in dry cattle excrements.

Ataenius clavatus SCHMIDT

(Figs 6, 13, 30)

Ataenius clavatus SCHMIDT, 1916: 103-104. DELLACASA 1988: 273 (catalogue).

Material examined. Holotype male, labeled „Typus”, “Brazil Corumba”, “Alto Paraguay H. RICHTER”, “*A. clavatus* m.”, in NRS.

Other specimens (7). **Argentina** – Prov. Formosa, 50 km NW Clorinda, P.N. Rio Pilcomayo, 17.VII.1990, S. & J. PECK. (CMNO); Prov. Santiago del Estero, El Charco, I.1959, F.H. WALZ (ISEA). **Brazil** – (SP) São Paulo, Piracicaba, III.1973, F. PLAUMANN; (MG) Minas Gerais, Ipatatinga, IX. 1993, E. GROSSI (ISEA); Aguas Vermelhas, XII. 1998, F. VAZ-DE-MELLO (FVMC).

Distribution. Southern South America. (Fig. 6).

Diagnostic characters. Length 4.0-4.8 mm. Body (Fig. 30) elongate oblong, convex, moderately shiny, colour dark brown to piceous, ventral surface and legs reddish brown. Head feebly gibbose medially, clypeal margin with upturned denticles on each side of moderate median emargination, sides straight to obtuse genae; surface with slight transverse rugulae, median area minutely punctate, punctures of vertical band fine, deep, separated by one their diameter. Pronotum transverse, margined, basal margin grooved, lateral and basal margin fringed with thick, club-shaped setae separated by less than their lengths; surface with evenly distributed, minute and moderate punctures, the latter everywhere separated 1-3 times their diameters. Elytra convex, epipleural denticle small; striae narrow, distinctly impressed with fine close punctures slightly crenating margins of intervals; intervals convex, microreticulate and weakly shiny with minute scattered punctures or impunctate, lateral intervals not different. Ventral surface everywhere uniformly punctured, punctures moderate in size, separated by 1-2 times their diameters, those on femoral surface slightly finer and less close; metasternal midline impressed, abdominal sternites finely fluted in anterior 1/4, surface punctate from side to side, disc of pygidium deeply eroded and longitudinally strigose. All femora shiny; posterior lines of meso- and metafemora complete; meso- and metatibiae slender, apex of metatibia with 8-9 short setae; tarsi slender, basal tarsomere of metatarsus

slightly longer than upper tibial spur and subequal to following three tarsomeres combined. In male, terminal spur of protibia slightly bent downwards; genitalia as in Fig. 13.

R e m a r k s. *Ataenius clavatus* was hitherto known only from its original description. The species is very similar to *A. variopunctatus* and *A. pseudoclavatus* sp. n. but differs from both these species by its strongly dentate clypeal margin. The specimens were collected mostly to lights in riverine forest.

***Ataenius clitellarius* PETROVITZ**

(Figs 14, 17)

Ataenius clitellarius PETROVITZ, 1973: 165-166; – DELLACASA 1988: 273 (catalogue).

M a t e r i a l e x a m i n e d. Holotype (sex undetermined) labeled „Brazil Nova Teutonia F. PLAUMANN”, ‘*Ataenius clitellarius* m. PETROVITZ’, in MMU. Paratypes (3), same data as holotype, in MHNG, MMU.

Other specimens (42). **Argentina** – Prov. Salta, Viñaco 15 km S El Carril, 12.II.1982, H. & A. HOWDEN (HAHC). **Brazil** – (MG) Minas Gerais, Unai, Faz Bolivia, 22-24.X.1964, Exp. Dep. Zoologia (MHNG). (SC) Santa Catarina, Nova Teutonia, I.1973, F. PLAUMANN (CMNO, USNM); (SP) São Paulo, Piracicaba, II. 1973, F. PLAUMANN (USNM); Agudos, 12.X.1993, C. FLECHTMANN (CFC, ISEA); (Pa) Para, Cachimbo, X. 1975, F. PLAUMANN (USNM); (Ba) Bahia, Encruzilhada, 980 m, XI.1972, M. ALVARENGA (FSCA). **Paraguay** – Puerto P. Stroessner, 5-6.I.1966, leg. MAHUNKA (HNHM, ISEA).

D i s t r i b u t i o n. Central South America. (Fig. 17).

D i a g n o s t i c c h a r a c t e r s. Length 4.0-4.8 mm. Body oblong oval, moderately shiny, colour reddish brown to dark castaneous, anterior of head, sides of pronotum and legs lighter. Head weakly gibbose, clypeal margin sharply denticulate on each side of moderate median

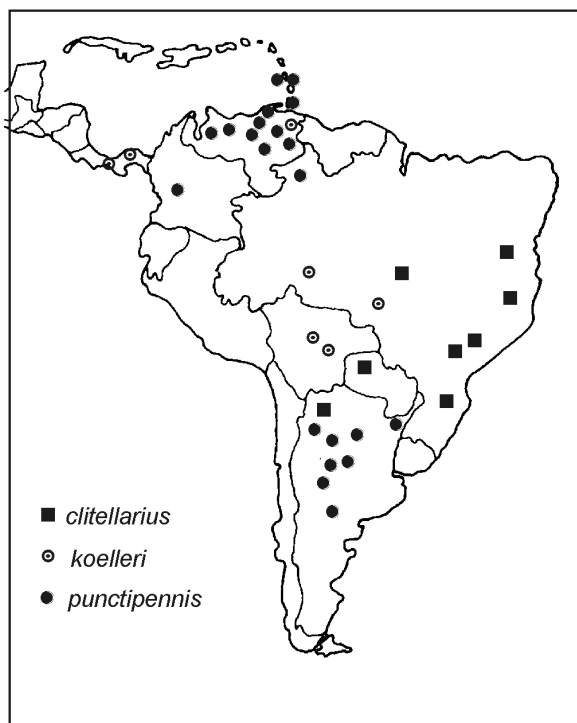


Fig. 17. Distribution of *Ataenius clitellarius* PETR., *A. koelleri* BALTH., *A. punctipennis* HAR.

emargination, sides straight toward right-angled genae; surface strongly wrinkled, wrinkles broken into short transverse segments, front and occipital area with deep punctures separated by 1 their diameter. Pronotum transverse, convex, sides and base margined, edge crenate-fimbriate, setae club-shaped, separated by their own lengths; surface with close, very fine and moderate punctures throughout, generally separated by about 1 their diameter. Elytra suboval, relatively short, convex, humeri finely sharply dentate, striae narrow, moderately deep, stria punctures weakly crenate margins of intervals; intervals convex, surface with fine scattered punctures, lateral intervals not different. Ventral side microreticulate; metasternum smooth, almost impunctate from side to side; abdominal sternites finely fluted along sutures, with fine punctures concentrated on sides, disc of pygidium eroded. Legs slender; femora smooth; meso- and metafemora with very short posterior lines; metatibia apically with fringe of 6-8 setae, basal tarsomere of metatarsus slightly longer than upper tibial spur and subequal in length to following three tarsomeres combined. In male, terminal spur of protibia sinuate, shorter than in female; genitalia as in Fig. 14.

R e m a r k s. The species seems to be most close to *Ataenius desertus* but differs from that species by having the pronotal punctures finer, deeper and denser, the abdominal sternites lacking setae and the allopatric distribution. The specimens examined were collected on pastures, on stands with *Pinus caribaea bahamensis* and taken from ant refuge deposit.

***Ataenius cochabambae* sp. n.**

(Figs 6, 15)

Holotype male, Bolivia andina, Cochabamba 2600 m, 15.XII.1959, leg. ZISCHKA, in ZSM.

Paratypes (28): 21 – same data as holotype; 7 – Bolivia, Cochabamba, Totorá 3200 m, 1972, coll. MARTINEZ. Paratypes are in CMNO, ISEA, ZSM.

D e s c r i p t i o n. Length 4.0-4.2 mm. Body elongate, moderately convex, glabrous shining; colour dark brown, anterior of clypeus, sides of pronotum and legs paler. Head rather small, weakly convex medially, clypeal margin obtusely rounded on each side of moderate median emargination, sides slightly arcuate toward right-angled genae; surface slightly alutaceous, very finely punctate, vertex with a trifle larger punctures separated by 1 their diameter or more. Pronotum transverse, sides and base finely margined, fringed with moderate in length, thin setae, sides slightly arcuate to obtusely rounded posterior angles; surface punctures of two types but generally fine, those of anterior median area same size as punctures on vertex, separated by 2-3 times their diameters, basal and lateral area of pronotum with slightly larger punctures intermixed, separated by about 1 diameter. Scutellum rather large, pentagonal, shiny. Elytra parallel-sided, relatively long, about 2.5 or 2.8 times as long as pronotum, base very finely margined, humeral denticles minute or invisible; elytral striae very fine, narrow, stria punctures fine and shallow, weakly crenating inner margins of intervals; all intervals equally flat, slightly convex at extreme apex of elytra, surface minutely alutaceous or not, impunctate or with minute scattered punctures. Ventral sclerites shining; mesosternum convex, shagreened; metasternum long, midline impressed, surface shining from side to side with very fine scattered punctures, lateral metasternal triangle feebly indicated; abdominal sternites glabrous shining with minute scattered punctures, sutures minutely fluted on sides, sternite 5 finely fluted at middle; pygidium eroded in apical half. Legs slender; profemur with fine perimarginal groove; terminal spur of protibia in both sexes straight; meso- and metafemora minutely punctate, postfemoral lines lacking or feebly marked in apical fourth; tibia slender, setaceous; apex of metatibia with fringe of 8-9 short setae without accessory spine; tarsi relatively long, basal tarsomere of metatarsus slightly longer than upper tibial spur and subequal to following three tarsomeres combined; 5th tarsomere equal in length to preceding two tarsomeres together. Sexual differences slight; male genitalia as in Fig. 15.

A f f i n i t y. *Ataenius cochabambae* is most closely related to *A. borjae* sp. n.; both species are characterized by the weakly gibbose head, fine sculpture of the body and relatively long tarsi (see Affinity under *A. borjae*).

Ataenius depilis PETROVITZ

(Figs 18, 32, 48)

Ataenius depilis PETROVITZ, 1976: 284-285.- DELLACASA 1988: 274 (catalogue).

M a t e r i a l e x a m i n e d. Holotype female, labeled "Ecuador Oriente Rio Negro", "*Ataenius depilis* nov. PETROVITZ", in MHNG. Other specimens (52). **Ecuador** – Napo, 12 km SW Tena, 10.VII.1976, S. & J. PECK (CMNO); Pastaza, 25. km N Puyo, 1000 m, 13.VII.1976, S. & J. PECK (CMNO, ISEA). **Venezuela** – Sucre, 7 km S El Pilar, 29.VII.1987, 15 km SE Carupano 100 m, 29.VII.1987, 6 km SE Rio Caribe 20 m, 28.VII.1987, Nat. Park Mochime 400 m, 26.VII.1987; 26 km SE Rio Caribe 50 m, 28.VII.1987, San Antonio 30 km W Guiria, 10 m, 30.VII.1987, S. & J. PECK (CMNO, ISEA). **West Indies** – Trinidad: Tunapuna, Mt St Benedict 240 m, Mt Tabor, 4.VI.1993, 19 km N Arima, Lalaja Trace 650 m, 8.VI.1993, Maracas Valley above Loango village 400 m, 22.VI.1993, S. & J. PECK (CMNO).

D i s t r i b u t i o n. Northern South America, Trinidad (Fig. 48).

D i a g n o s t i c c h a r a c t e r s. Length 3.0-4.3 mm. Body (Fig. 32) oblong-oval, moderately shiny, black, clypeal and lateral pronotal edge and legs reddish. Head broad, clypeal margin rounded on each side of shallow median emargination and arcuate toward right-angled, prominent gena; surface with no trace of rugulae, minute punctures along anterior margin slightly increase in size over median convexity to vertex, everywhere separated by about one diameter. Pronotum transverse, margined; anterior angles obtusely rounded, finely reflexed; side straight toward obtuse posterior angles, margin very finely crenate with minute apically dilated setae; surface everywhere punctate, fine punctures along median anterior disc become moderate toward base, separated by more than one their diameter, then increasingly larger and closer halfway to sides, contiguous along lateral margin. Elytra slightly arcuate, humerus with two denticles at ends of distinct carina between epipleural angle and 7th interval; first two discal striae finer than others, intervals convex, apically subcarinate, surface toward sides with gradually deeper and closer punctures, in some specimens lateral and apical intervals roughly sculptured, in some more or less uneven. Ventral surface microreticulate; mesosternum shagreened, meso-metasternal carina very short with two small pits basally; metasternal disc with impressed midline and coarse punctures, lateral area scabrous; abdominal sternites fluted in anterior 1/3, surface punctures moderate at middle, coarse and scabrous on sides. All femora punctured, punctures same size as those on metasternum, posterior line of metafemur strong, incomplete; tibiae slender, terminal spur of protibia straight in both sexes; tarsi relatively short, basitarsomere of metatarsus subequal to upper tibial spur and to four following tarsomeres combined. Male genitalia as in Fig. 18.

R e m a r k s. This hitherto little known species has a relatively wide range and shows considerable variation, particularly in the pronotal and elytral proportions and in the dorsal sculpture. In the series of specimens from Ecuador, the elytra laterally are less roughly sculptured and surface of the head is more finely punctate while in the series from Venezuela the dorsal sculpture varies from fine to coarse and in the extreme cases it resembles that of *Auperia squamosa* (PETR.), (STEBNICKA 2002b). The typical morphotype of *A. depilis* is most close to *A. guanacastae* sp.n. but differs from that species by its broader head, coarser sculpture of the ventral sclerites and the shape of aedeagus. The species was collected to light in the gallery forest, taken from soil and from log and leaf litter.

Ataenius desertus HORN

(Figs 19, 34)

Ataenius desertus HORN, 1871: 289; 1887: 72; SCHMIDT 1922: 453; CARTWRIGHT 1974: 49-50; DELLACASA 1988: 120 (catalogue).

T y p e d a t a. Type locality defined as "not rare in the desert region around and to the eastward of Fort Yuma, California". Holotype in ANSP.

M a t e r i a l e x a m i n e d. Specimens (209). **Mexico** – Baja Sur, 10 km S La Paz, 26.VIII.1994, R. TURNBOW (RTC); Baja Sur, 27 km S Mulege, 14.VIII.1992, 20 km N Mulege, N Palo Verde, 14-16.VIII.1992, H. & A. HOWDEN, Baja Sur, San Ignacio, 16.VIII.1992, H. & A. HOWDEN (HAHC); Durango, 27 mi S Ceballos, Sierra Banderas, 900 m, 10.VII.1982, M.A. IVIE (PKLC); **USA** – Arizona, Base of Tortolita Mts, Pima Co. 3000 ft, VI.1984, R.S. BEAL (PKLC); Arizona, Casa Grande, 5.VIII.1924, A. SCHROEDER (ZMHB).

D i s t r i b u t i o n. USA (Arizona, California, Kansas, New Mexico, Nevada, Texas, Utah: see CARTWRIGHT 1974, fig. 12), Mexico (Fig. 34).

D i a g n o s t i c c h a r a c t e r s. Length 3.3-4.5 mm. Body oblong, slightly diverging apically, shiny, colour orange or rusty brown. Head gibbose, clypeal margin sharply triangularly denticulate on each side of moderate median emargination, surface transversely granulate-rugulose, front and occipital area with punctures separated by 1 their diameter. Pronotum usually narrower than elytra, strongly margined and slightly lobed basally, edge crenate-fimbriate, setae slender, truncate, separated by their own lengths or less; surface with fine and coarse punctures throughout, coarse punctures shallow, numerous, irregularly spaced from contiguous to four times their diameters. Elytra elongate-oval, convex, humeri finely dentate, striae fine, moderately deep, stria punctures weakly crenate margins of intervals; intervals convex, surface with fine scattered punctures, lateral intervals not different. Venter shiny; metasternum very finely punctate, smooth; abdominal sternites finely fluted along sutures with very shallow, moderate punctures from side to side, those on sides bearing very fine semierect setae somewhat reminiscent to those in *A. languidus* and *A. castaniellus*; disc of pygidium eroded, apical lip shiny with row of 8-10 setigerous punctures. Legs slender; femora smooth; terminal spur of protibia in both sexes straight; meso- and metafemora with traces of short posterior lines; metatibia apically with fringe of 4-6 setae, basal tarsomere of metatarsus slightly shorter than upper tibial spur and shorter than following three tarsomeres combined. Male genitalia as in Fig. 19.

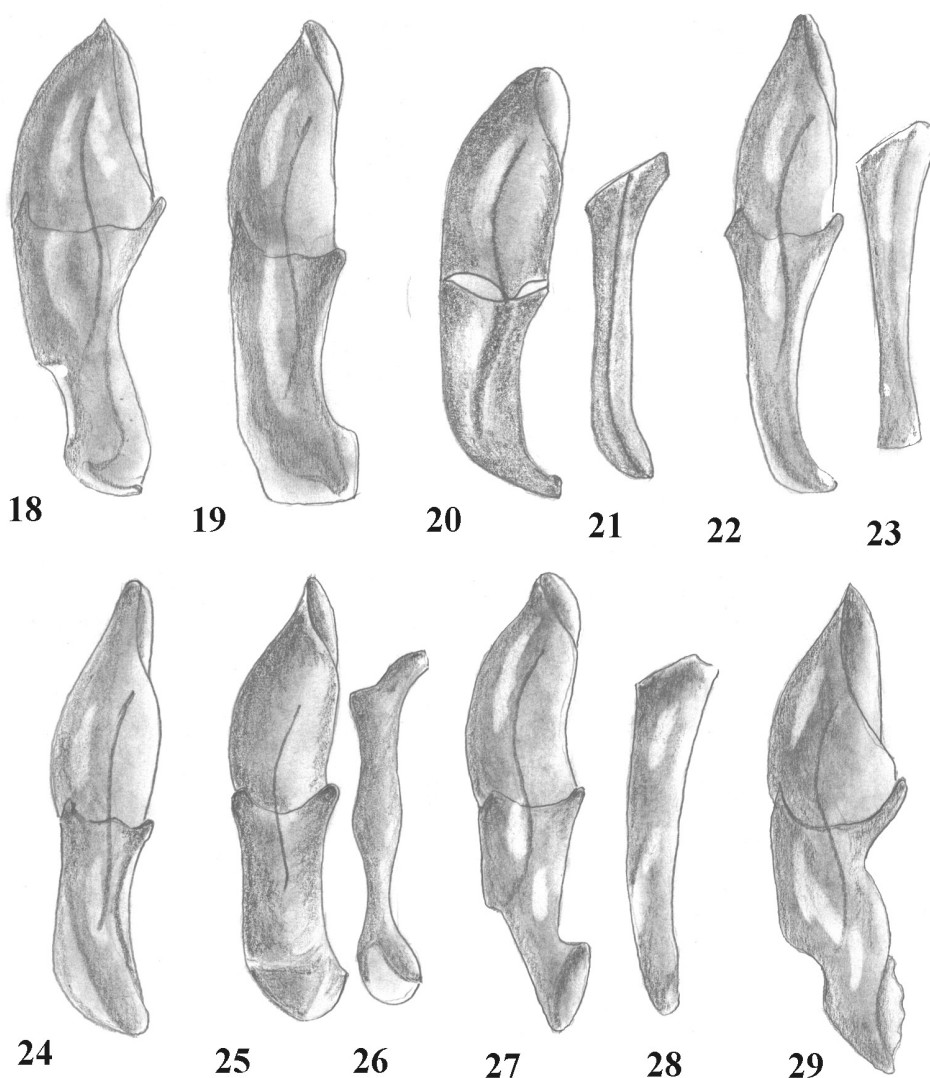
R e m a r k s. The red colour, noticeable clypeal teeth, mixed very coarse and fine pronotal punctures and semierect hairs on sides of the abdominal sternites easily distinguish *Ataenius desertus*. The species is most closely related to *A. clitellarius* (see Remarks under that species).

***Ataenius guanacastae* sp. n.**

(Figs 20-21, 34))

Holotype male, Costa Rica, Guanacaste, Guanacaste Cons. area, Pitilla Field Station, 1000 m, cloud-wet montane transition forest litter, 14.II.1996, R. ANDERSON, in CMNO. Paratypes (6): 5 – same data as holotype; 1 – Panama, Park National Soberania, Pipeline Road km 2.4, 25.V.1995, B. RATCLIFFE & M. JAMESON. Paratypes are in CMNO, ISEA, UNSM.

D e s c r i p t i o n. Length 4.0-4.5 mm. Body oblong-oval, moderately convex, shining black, anterior edge of clypeus and lateral margin of pronotum reddish. Head gibbose medially, clypeal margin widely rounded on each side of shallow median emargination, side slightly arcuate toward right-angled, prominent gena; clypeal surface slightly uneven with weak traces of transverse rugulae, median area minutely punctured, vertex with wide band of coarse punctures separated by less than one their diameter. Pronotum transverse, anterior angles rounded and reflexed, posterior angles obtuse, sides and base finely margined, lateral edge with distinct crenations bearing very short, truncate setae; surface punctures mixed minute to very fine and moderate, fine punctures everywhere distributed, moderate punctures scattered around median anterior disc become coarser toward sides and almost contiguous, slightly confluent along lateral edge. Scutellum narrow, rounded apically. Elytra arcuate, disc slightly deplanate, humerus with strong carina between epipleural angle and 7th elytral interval; elytral margin from base to apex with crenations formed by regular row of close tubercles on epipleural edge; discal striae 1-5 finely impressed, lateral striae deeper, punctures crenate margins of intervals; discal intervals flat, impunctate, lateral intervals slightly convex, microreticulate and densely roughly punctate with scarce minute setae visible under high magnification. Venter shining; prosternal process large; mesosternum shagreened, meso-metasternal



Figs 18-29. Male genitalia: 18 – *Ataenius depilis* PETR., aedeagus in lateral view; 19 – *A. desertus* HORN, aedeagus in lateral view; 20, 21 – *A. guanacastae* sp. n., 20 – aedeagus in lateral view, 21 – left paramera dorsally; 22, 23 – *A. guriensis* sp. n.: 22 – aedeagus in lateral view, 23 – left paramera dorsally; 24 – *A. hirsutus* HORN, aedeagus in lateral view; 25, 26 – *A. koelleri* BALTH., 25 – aedeagus in lateral view, 26 – left paramera dorsally; 27, 28 – *A. languidus* SCHM: 27 – aedeagus in lateral view, 28 – left paramera dorsally; 29 – *A. lenkoi* PETR., aedeagus in lateral view.

carina convex; metasternum shining, midline impressed, disc with 6-8 coarse punctures at meso-coxae; abdominal sternites finely fluted along sutures, surface punctures laterally coarse, separated by less than one diameter; eroded disc of pygidium subgranular. Profemur with fine perimarginal groove and smooth area along groove, posterior face punctured; meso- and metafemora shining impunctate, posterior metafemoral line short; meso- and metatibiae slender, metatibia apex with fringe of 6-7 very short setae and a trace of accessory spine; basal tarsomere of metatarsus 1/5 longer than upper tibial spur and subequal to four tarsomeres combined. In male, terminal spur of protibia hooked inwardly at the tip; genitalia as in Figs 20-21.

A f f i n i t y. *Ataenius guanacastae* sp. n. is most closely allied to *A. onkonensis* sp. n., *A. plaumanni* and *A. depilis*, but may be easily distinguished from these species by having the pronotal and elytral margins markedly crenulate. Externally, all these species bear an overall similarity to the members of *A. mugator*-group (STEBNICKA 2000) based on the more or less roughly punctured lateral intervals of the elytra, however, they may be recognized by having a more corpulent body, the pronotal punctures usually larger and the male genitalia otherwise shaped.

***Ataenius guriensis* sp. n.**

(Figs 16, 22-23, 31)

Holotype male, Venezuela, Bolivar, Guri, 11.VII.1998, at light, H. & A. HOWDEN, in CMNO. Paratypes (31): 17 – same data as holotype; 3 – same locality, 10.VIII.1998, H. & A. HOWDEN; 5 – same locality, 1.VIII.1998, H. & A. HOWDEN; 3 – same locality, 14.VI.1996, H. & A. HOWDEN; 1 – Bolivar, 15 km E Caicara, 12-13.VI.1996, H. & A. HOWDEN; 2 – NE Venezuela, Guatamare, 4.IX.1953, Mus. Hist. Nat. La Salle, Caracas, Ven. Paratypes are in CMNO, ISEA.

D e s c r i p t i o n. Length 3.8-4.2 mm. Body (Fig. 31) oblong oval, convex, moderately shiny, colour piceous, rarely dark brown. Head rather small, weakly gibbose medially; clypeal margin obtusely rounded on each side of median emargination and laterally straight toward right-angled gena; surface shallowly transversely rugulose up to median convexity, frons and vertex finely, not closely punctured. Pronotum convex, sides and base margined, lateral edge finely crenulate, fringed with blunt setae separated by less than their lengths, basal marginal setae twice shorter than those on sides, separated by their lengths; pronotal surface densely punctate throughout, punctures mixed fine and moderate, the latter increasingly larger from anterior margin to base, on disc separated by one diameter, closer laterally. Scutellum narrowly triangular, smooth. Elytra slightly arcuate, epipleural humeral denticle small, obtuse; striae finely impressed with moderate punctures crenating intervals, lateral striae only slightly deeper than discal ones; intervals variable in shape, in most typical specimens raised medially, in some specimens almost carinate, in some only lateral and apical intervals tectiform to subcarinate; surface of all intervals with minute scattered punctures. Ventral sclerites shining; mesosternum shagreened, metasternal disc longitudinally concave, shining, punctures minute; abdominal sternites fluted along sutures, fluting medially short and fine, on sides longer and coarser; surface punctures fine at middle of sternites, coarse on sides and coalescent into longitudinal lines. All femora shining; profemur with moderate, scattered punctures, meso- and metafemora without posterior lines; meso- and metatibiae slender, apex of metatibia with fringe of 8-9 short setae, without accessory spine; basal tarsomere of metatarsus slightly shorter than upper tibial spur and subequal to three following tarsomeres combined. In male, terminal spur of protibia shorter than in female, slightly bent downwards; genitalia as in Figs 22-23.

A f f i n i t y. *Ataenius guriensis* is very similar and closely related to *A. aequalis*; it differs from that species by its smaller head with less protruding genae, the more rounded clypeal margin and the elytral intervals usually strongly convex, however, other characters of both species overlap and some specimens are difficult to distinguish on the basis of their external characters.

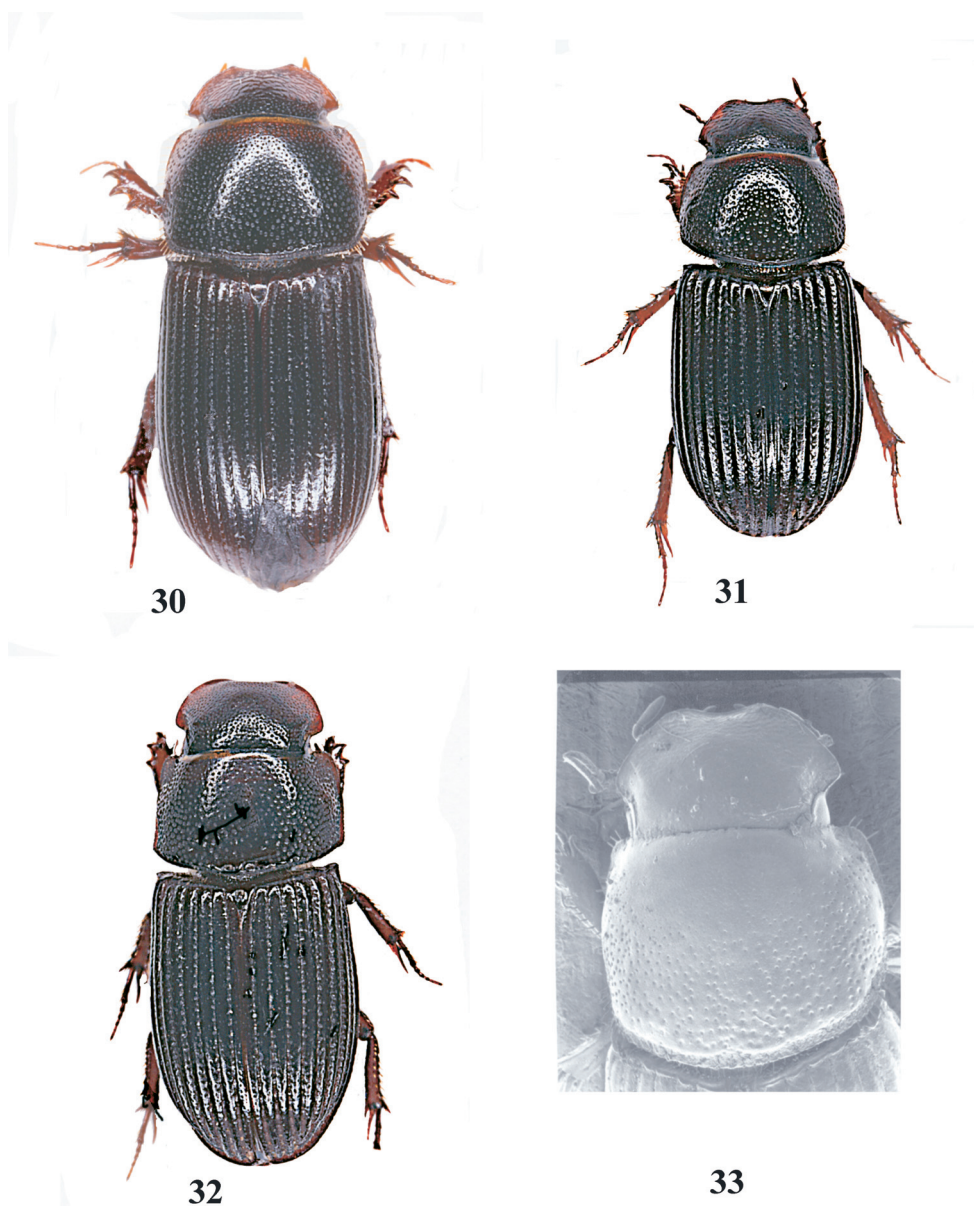
***Ataenius hirsutus* HORN**

(Figs 24, 49)

Ataenius hirsutus HORN, 1871: 288.- 1887: 86; SCHMIDT 1922: 428; CARTWRIGHT 1974:36-37; DELLA-CASA 1988: 139 (catalogue); DELOYA 1994: 49 (nota); GALANTE & STEBNICKA & VERDÚ 2003: 294.

T y p e d a t a. Described from USA (Camp Grant, Arizona); holotype No 3615 in ANSP.

M a t e r i a l e x a m i n e d. Specimens (330). **Mexico** – Nayarit, 20 mi W Compostela, 19.VI.1967, A.R. HARDY; Sinaloa, 10 mi N Culiacan, 24.VIII.1967, A.R. HARDY; Baja Sur, 10 km N Los Barriles, 30.VIII.1994, R. TURNBOW (AMNH, FSCA, ISEA); Baja Sur, Ramal a Los Naranjos, 24 km W, 28.VIII.1994, 10 km S La Paz, 28.VIII.1994, 18 km E Todos Santos, 29.VIII.1994, R. TURNBOW (RTC); Jalisco, Estacion Biol. UNAM, Chamela, 17.VII.1987, R.



Figs 30-33. Dorsal view: 30 – *Ataenius clavatus* SCHM., 31 – *A. guriensis* sp. n., 32 – *A. depilis* PETR., 33 – *A. longiclavus* PETR., fore body.

TURNBOW; Guerrero, 43 km NW Ixtapa, 17.VII.1985, R. TURNBOW (FSCA); Oaxaca, Cuicatlan, 3, 15.VII.1999, E. GALANTE (CEUA); Puebla, 12 mi SE Izucar Matamoros, 5.IX.1969, S. & J. PECK; 20 mi S Izucar Matamoros, 8-9.VI.1971, H. & A. HOWDEN (CMNO); Tehuacan, Altapexi 1125 m, M. MORÓN (CEUA). Veracruz, La Mancha, 24.VII.1999, E. GALANTE (CEUA). **USA** – Arizona, Tucson, coll. ENDRÖDI (HNHM), Casa Grande, 5.VIII.1924, leg. SCHROEDER (ZMHB), Pima Co. Continental, VII.1978, leg. LENCZY (ISEA).

D i s t r i b u t i o n. USA – (Arizona, Kansas, New Mexico, Texas: see CARTWRIGHT 1974, fig. 6); Mexico (Fig. 49).

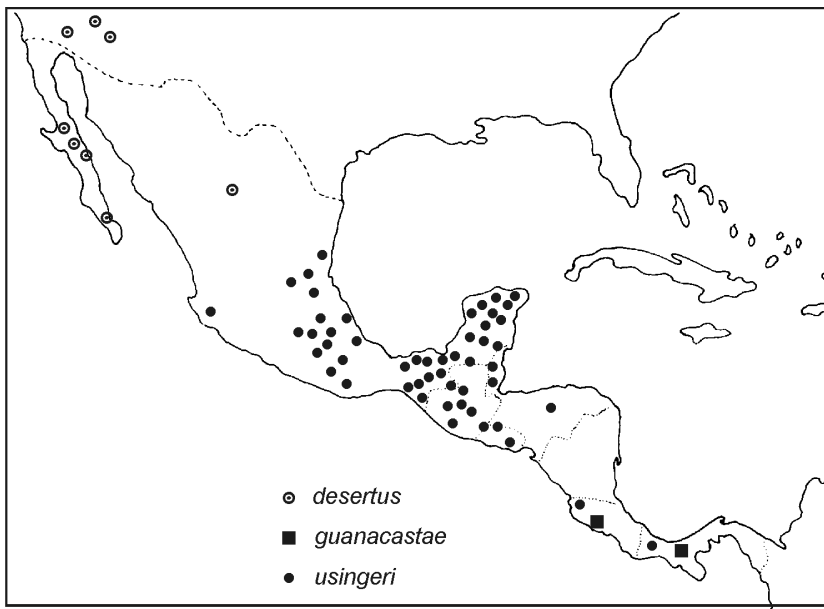


Fig. 34. Distribution of *Ataenius desertus* HORN, *A. guanacastae* sp. n., *A. usingeri* HINT.

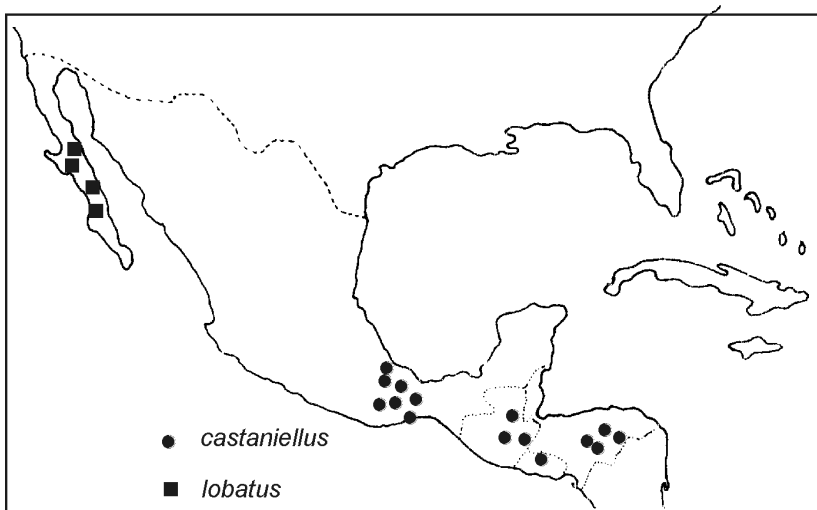


Fig. 35. Distribution of *Ataenius castaniellus* BATES, *A. lobatus* HORN.

Diagnostic characters. Length 3.5-4.8 mm; oblong, convex, moderately shiny, colour dark castaneous to piceous, elytra with upright setae. Clypeus subangulate on each side of deep median emargination, genae nearly right-angled; surface transversely wrinkled anteriorly. Pronotum convex, strongly margined, edges crenate-fimbriate, setae moderately long; surface quite uniformly punctate throughout with mixed fine and coarse, shallow punctures generally separated by their diameter or less. Elytra slightly arcuate, humeri finely dentate; striae fine and deep, striae punctures widely spaced; intervals convex, microreticulate with row of moderate setigerous punctures along striae, setae conspicuous, erect, variable in length and spacing, in some specimens

occur from base to apex of elytra, in some disc of elytra hairless, in some only posterior third of elytra setigerous. Venter microreticulate; metasternal midline shallow with small pore anteriorly; abdominal sternites moderately fluted along sutures, surface with shallow, setigerous punctures; disc of pygidium eroded, setigerous. All femora shiny with scattered punctures and short posterior lines; tibiae slender, apex of metatibia with fringe of 5-6 setae and fine accessory spine; basal tarsomere of metatarsus subequal in length to upper tibial spur and slightly longer than following three tarsomeres combined. In male, terminal spur of protibia bent inwardly at the tip; genitalia as in Fig. 24.

R e m a r k s. *Ataenius hirsutus* is identified by the hairy elytra and subangulate clypeal margin. It is closely related to *A. setiger* BATES (see Remarks under that species). Collected in May-September, attracted to light in open meadows, found in the nest of *Neotoma*. Most common in northern Mexico, sometimes attracted to lights in enormous numbers.

Ataenius koelleri BALTHASAR

(Figs 17, 25-26)

Ataenius koelleri BALTHASAR, 1963: 288-289.- DELLACASA 1988: 276 (catalogue).

M a t e r i a l e x a m i n e d. Holotype female, labeled "Paraguay Villarica Aug. 1937 Slg. H. KOELLER", "*Ataenius koelleri* BALTH. n. sp. Holotypus 1961", "MLU Halle WB Zoologie 5, nr 71312", in MLUH. Paratype, same data as holotype, in NMP.

Other specimens (42). **Bolivia** – Prov. Sara (ZMHB); Santa Cruz, Buena Vista 380 m, 20.II.1999, L. STANGE (USNM). **Brazil** – (Ro) Rondonia 62 km SW Ariquemes nr Fzda Rancho Grande, 8-20.XI.1994, J. EGER & C.O'BRIEN (FSCA, ISEA); (MT) Mato Grosso, Mun. Diamantino, Serra do Tombador, 450 m, 11.I.2001, GÉNIER & VAZ-DE MELLO (CMNO). **Panama** – Canal Zone, Gatun Lake, Dungo, 22.IX.1982, D. HABECK & C. BENNETT (ISEA, USNM); Cocle Altos de Campana, 13.V.1996, R. TURNBOW (FSCA), El Valle, 7.VI.2000, H. & A. HOWDEN (CMNO). **Venezuela** – Bolivar, Guri, 13.VI.1998, 3.VII, 10.VII.1998, H. & A. HOWDEN (CMNO, ISEA); Zulia, El Tucuco, Sierra de Perija, 28-29.I.1978, J.B. HEPPNER (USNM); Aragua, Maracay, El Limon, 22.VI.1996, H. & A. HOWDEN (CMNO).

D i s t r i b u t i o n. South America, Panama (Fig. 17).

D i a g n o s t i c c h a r a c t e r s. Length 3.8-4.2 mm. Body oblong oval, moderately convex, strongly shiny, piceous black, anterior of clypeus and legs reddish. Head small, gibbose medially, clypeal margin widely rounded on each side of moderate median emargination, sides straight toward obtuse genae; surface transversely wrinkled up to median convexity, vertical area with fine punctures. Pronotum convex, sides and base margined, lateral edge fringed with transparent, scarce, blunt setae; surface punctures vary in size and spacing, usually minute to fine punctures everywhere distributed and moderate to coarse punctures separated on disc by 1-4 times their diameters, on sides closer. Elytra parallel-sided, about 2.5 times as long as pronotum with fine acute humeral denticles; striae narrow, striae punctures finely crenate margins of intervals; intervals flat or slightly convex, impunctate, lateral intervals not different. Ventral surface shiny; metasternum slightly concave, midline fine, lateral area and metasternal triangle shiny; abdominal sternites with fine fluting along sutures and punctures concentrated on sides; disc of pygidium deeply eroded with shiny lip. All femora shiny; meso- and metafemora without posterior lines, surface impunctate; terminal spur of protibia in both sexes straight; meso- and metatibiae slender, apex of metatibia without spine; tarsi slender, basal tarsomere of metatarsus slightly longer than upper tibial spur and shorter than following tarsomeres combined. In male, penultimate abdominal sternite shorter than in female; genitalia as in Figs 25-26.

R e m a r k s. This little known species is most close to the group of similar appearing species such as *A. castaniellus* and *A. platensis*. It differs from these species by its smaller and darker body and the pronotal disc with closer and more differentiated punctures. The species is also similar to some specimens of a very variable *A. aequalis*, but may be recognized by its broadly rounded

clypeal margin and strongly shiny surface of the body. The specimens examined were collected to light traps in wet montane forest.

Ataenius languidus SCHMIDT

(Figs 6, 27-28)

Ataenius languidus SCHMIDT, 1911: 31.- 1922: 452-453; WOODRUFF 1973:122; CARTWRIGHT 1974: 50-51; DELLACASA 1988: 276 (catalogue); DELOYA 1994: 60 (nota); GALANTE & STEBNICKA & VERDÚ 2003: 297.

Ataenius linelli CARTWRIGHT, 1944:28.- 1974: 50 (as synonym of *languidus*).

M a t e r i a l e x a m i n e d. Holotype (sex not determined), labelled „S.Madre de Durango, Mexico”, in NRS.

Other specimens (120). **Costa Rica** – Guanacaste, 3 km N Cañas, Hac. La Pacifica 900 m, 9-11.VIII.1987, . H. & A. HOWDEN (CMNO), 22-26.V.1984, E. RILEY (PSC), Guanacaste, Finca Pacifica, 7.VII.1966, S.& J. PECK (CMNO). **Guatemala** – Zacapa, Rio Hondo 300 m, VI.1971, H.& A. HOWDEN; La Palmilla, 6 km SW Teculután, La Palmilla 300 m, 4.VI.1991, H.& A. HOWDEN (CMNO). **Honduras** – Morazan, 30 km ESE Tegucigalpa, Zamorano, 7.VI.1994; Paraíso, 35 km E Damli, 12.VI.1994, H.& A. HOWDEN (CMNO,ISEA). **Mexico** – Jalisco, 8.6 km N Chamela, 18.VII.1987, R. TURNBOW (RTC); Chiapas, Hwy 190 at Puente La Cintla, 15.VI.1990, R. TURNBOW (FSCA); Chiapas, Cinco Cerros, km 30 on Hwy 190, 1500 m, 8.VI.1989; El Aguacero, 16 km W Ocozocoautla, 24.VI.1989, H.& A. HOWDEN; Chiapas, Pk Laguna Belgica. 16 km NW Ocozocoautla, 7.VI.1989, H.& A. HOWDEN; Cinco Cerros 860 m, 31.V.1990, 9.VI.1990, H.& A. HOWDEN (CMNO); Sinaloa, 14 mi N Mazatlán, IX.1967; Sinaloa, 26 mi E Villa Unión, 9.VII.1960, R.B. LOOMIS (ISEA); Veracruz, Mocambo, 5 km S Veracruz, 11.VII.1981, W.E. STEINER (USNM); Oaxaca, 5 mi W El Camaron; Cotaxtla, 17.VI.1958, D. CARDIAZ (USNM), 20.V.1969, H.& A. HOWDEN (CMNO); Oaxaca, 1.5 mi E Zapilote, 5.VI.1987, RATCLIFFE & JAMESON (UNSM); Tamaulipas, Cdad Victoria, 29.IV.1963, L. BALDERAS (ISEA), Guerrero, 43.7 km NW Ixtapa, 17.VI.1985, R. TURNBOW (RTC), Nuevo Leon, Chipinque Mesa 5400 ft nr Monterrey, 30.VII.1963, H.& A. HOWDEN (CMNO). **Nicaragua** – Prov. of Rivas between La Virgen and Sapoa, Rio Canas Gordas, 9.VI.1964, F.S. BLANTON & R.E. WOODRUFF (FSCA). **West Indies** – Trinidad, Tunapuna, 11-13.VIII.1969, H.& A. HOWDEN (CMNO).-**USA** – Florida: Miami, 1937, leg. STROEHECKER (ISEA).

D i s t r i b u t i o n. USA – (Alabama, Florida, Texas, Bahama Isl: see CARTWRIGHT 1974, fig. 13), Central America, Venezuela, West Indies (GALANTE & al. 2003), Fig. 6.

D i a g n o s t i c c h a r a c t e r s. Length 4.0-4.9 mm. Body oblong, moderately elongate, convex medially, shining, colour dark reddish brown to piceous, legs usually reddish brown, antenna pale yellow. Head moderately gibbose medially, clypeal margin varies in shape, in most specimens very finely denticulate on each side of median emargination, in some individuals sharply angled or obtuse; surface finely transversely wrinkled anteriorly, above convexity minutely to finely punctured. Pronotum convex, all angles obtusely rounded, edge margined, marginal setae thin, slender; surface with mixed fine and moderate to coarse punctures variable in density, larger punctures usually widely spaced on disc or lacking, on sides closer and separated by one diameter or more. Elytra markedly convex medially, sides parallel or slightly arcuate, humeri finely denticulate; striae moderately deep with crenating punctures, intervals slightly convex, minutely punctate or smooth, lateral intervals not different. Mesosternum shagreened and pubescent; metasternum longitudinally concave, shining, minutely punctate; abdominal sternites finely fluted along sutures, smooth at middle, transverse rows of few coarse, shallow punctures outward at sides bearing long, decumbent or semierect pale setae; pygidial disc roughly eroded with few scattered, shorter setae. All femora shining, almost impunctate except 3-4 coarse setigerous punctures at knee of meso- and metafemora, posterior lines fine, incomplete, varying in length; tibiae slender, terminal spur of pro-

tibia straight in both sexes; apex of metatibia with fringe of short setae, accessory spine minute or lacking; basal tarsomere of metatarsus subequal to upper tibial spur and to following three tarsomeres together. Male genitalia as in Figs 27-28.

R e m a r k s. This very variable species is similar externally to *A. castaniellus*, but can be easily recognised by having the abdominal sternites with long pale setae. As indicated on the labels, the specimens were collected to light traps, occasionally found in cattle dung.

***Ataenius lenkoi* PETROVITZ**

(Figs 29, 48)

Ataenius lenkoi PETROVITZ, 1973: 177-178.- DELLACASA 1988: 277 (catalogue).

M a t e r i a l e x a m i n e d. Holotype (sex undetermined) labeled „Brasil SP Boa Esperanza do Sul, Faz. Itaqueres 19.VII.1964, K. LENKO”, ‘*Ataenius lenkoi* PETROVITZ’, in MZUSP. Paratype, same data as holotype, in MHNG.

Other specimens (46). **Brazil** – (Go) Goiás, Brasília, Coronel Ponce, 6.III.1979, C.R. OWEN; (MT) Mato Grosso, Rio Verde, 5.III.1979, C.R. OWEN (ISEA), XI.1995, J. CARLOS (FVMC); „Marilandia nr Ovaiba”, XI.1963, M. ALVARENGA (CMNO); Mun. Diamantino, Faz. São João, 13.I.2001, 25 km N Posto do Gil, 11.V.2001, Serra do Tombador 450 m, 13.I.2001, GÉNIER & VAZ-DE-MELLO (CMNO); Chapada dos Guimaraes, XI.1963, M. ALVARENGA (ISEA, USNM); (MG) Minas Gerais, Paracatu, III, XI.1997, leg. S. LOURENGO; Aguas Vermelhas, XII.1997, F. VAZ-DE-MELLO (FVMC, ISEA); (SP) São Paulo, Ypiranga, leg. F. OHAUS (ZMHB); Esperanza do Sul, Faz Itaqueres , 19.VII.1964, K. LENKO (type locality) (USNM); (SC) Santa Catarina, Nova Teutonia, , IX-XII.1974, F. PLAUMANN (USNM); (Pa) Pará, Cachimbo, X.1973, F. PLAUMANN (ZMHB).

D i s t r i b u t i o n. Brazil (Fig. 48).

D i a g n o s t i c c h a r a c t e r s. Length 4.2-5.1 mm. Oblong-oval, convex, moderately shiny, colour dark brown, anterior of head, sides of pronotum, elytra and legs usually reddish brown. Head weakly gibbose, clypeal margin rounded on each side of narrow but deep median emargination, sides arcuate to obtuse genae; clypeal surface without transverse wrinkles, slightly concave just above median emargination, fine to moderate punctures irregularly spaced, increasingly larger from anterior margin to vertex and here separated by one their diameter. Pronotum transverse, sides and base margined, lateral margin grooved, lacking setae; posterior angles distinctly truncate in front of base; surface with mostly moderate punctures throughout, punctures generally separated by one their diameter Elytra convex, arcuate, humeri minutely denticulate; striae narrow, deep, striae punctures slightly transversely crenate margins of intervals; intervals convex, impunctate, lateral ones not different. Venter shiny; metasternal midline impressed, surface punctures minute to fine; abdominal sternites finely fluted along sutures with moderate punctures from side to side, punctures same size as those of pronotum, separated by their diameter; disc of pygidium eroded. All femora shining, minutely to finely punctate or impunctate; terminal spur of protibia in both sexes straight; meso- and metatibiae slender, setaceous, posterior tibial fringe with group of 6-8 short setae; basal tarsomere of metatarsus usually longer than upper tibial spur and shorter than following tarsomeres combined. Male genitalia as in Fig. 29.

Remarks. *Ataenius lenkoi* can be easily distinguished from all other species of the group by its irregularly punctate head lacking wrinkles and equally spaced, moderate punctures on the pronotum. However, it may be confused with sympatric *Parataenius derbesis* (SOLSKY), from which it differs by the sculpture of the head, the pronotum with truncate posterior angles and slender metatibiae, weakly expanded apically. The specimens examined were collected to light traps.

Ataenius lobatus HORN

(Figs 35, 37)

Ataenius lobatus HORN, 1871: 287.- CARTWRIGHT 1951: 29; 1974: 44-45, fig. 3b; DELLACASA 1988: 154 (catalogue).

Ataenius leaeviventris HORN, 1887: 74.- CARTWRIGHT 1951: 29 (as synonym of *lobatus*).

Type data. Described from „Peninsula of Lower California”; holotype in ANSP.

Material examined. Specimens (209). **Mexico** – Baja California Sur, 20 km N Mulége N. Palo Verde, 14-16.VIII.1992, 2 km S Mulége, 14.VIII.1992, H. & A. HOWDEN; Notri, 18 km S Loreto, 13.VIII.1992, San Ignacio, 13.VIII.1992, H. & A. HOWDEN (CMNO, ISEA).

Distribution. USA (Arizona, California, Nevada: see CARTWRIGHT 1974 fig. 13), Mexico (recorded from Baja California Sur -Purissima, San José del Cabo and Santa Rosa by CARTWRIGHT 1974), Fig. 35.

Diagnostic characters. Length 4.5-6.0 mm. Body elongate oblong, moderately convex, dark castaneous to black, shining. Head convex, clypeal margin rounded, or in some specimens subangulate on each side of wide, moderately deep median emargination, laterally weakly arcuate to right-angled genae; surface with conspicuous wrinkles in anterior half and punctate above. Pronotum convex, margined, base strongly lobed medially, all angles broadly rounded, side margin fringed with slender, moderately long setae separated by less than their length; surface with mixed punctures, fine punctures evenly distributed, moderate to coarse punctures variably spaced, usually scattered over median anterior disc, closer and more numerous halfway to sides. Elytra parallel-sided or feebly arcuate with fine humeral denticles; striae moderately impressed, stria punctures more or less deeply crenating inner margins of slightly convex, minutely punctate intervals, lateral intervals not different. Ventral sclerites shiny; mesosternum shagreened, covered with appressed hair; metasternum everywhere smooth and shiny, minute punctures scattered; abdominal sternites smooth but with minute scattered punctures at middle becoming slightly larger and very shallow near sides and sometimes minutely setigerous; pygidial disc deeply eroded with rough tuberculate sculpture. Legs moderate in length; all femora smooth shining except few setigerous punctures at apex of meso- and metafemora, posterior marginal lines fine of variable length; protibial terminal spur straight in both sexes; metatibia slender, apex with accessory spine and fringe of short setae; basitarsomere of metatarsus a trifle longer than upper tibial spur and equal in length to following three tarsomeres together. Male genitalia as in Fig. 37.

Remarks. The size, distribution and especially the markedly lobed pronotal base distinguish *A. lobatus* from the closely related *A. platensis*, *A. castaniellus* and *A. languidus*. Bionomy unknown, the specimens were collected exclusively to the light traps.

Ataenius longiclavus PETROVITZ

(Figs 16, 33)

Ataenius longiclavus PETROVITZ, 1970: 233-234.- DELLACASA 1988: 277 (catalogue).

Material examined. Holotype male, labeled ‘Brasilien Rio Grande do Sul, Porto Alegre, X.1958, K.E. HUDEPOHL’, ‘*Ataenius longiclavus* PETROVITZ’, in MGFT. Allotype, same data as holotype, in MHNG.

Distribution as in Fig. 16.

Diagnostic characters. Length 4.0-4.2 mm. Body elongate oval, strongly alutaceous, piceous, elytra lighter than fore body. Head rather small, gibbose at middle, clypeal margin subangulate on each side of deep median emargination, surface with very weak transverse rugulae, punctures of vertical area fine, indistinct. Antennal club in both sexes elongate, longer than funicle (Fig. 33). Pronotum transverse with trace of median longitudinal line, sides finely crenate, fringed with blunt setae separated by less than their lengths, base margined and

widely, deeply grooved; surface punctures very shallow, in anterior median area fine and indistinct, at base and on sides slightly larger, separated by one their diameter or more. Elytra microreticulate, almost mat, epipleural humeral denticle fine, acute; striae and stria punctures fine, intervals convex, more elevated laterally, surface impunctate. Ventral sclerites alutaceous; abdominal sternites finely fluted along sutures and finely shallowly punctate. All femora microreticulate; metatibia slender, slightly sinuate and flattened dorsoventrally, apex without accessory spine, fringed with short setae; basal tarsomere of metatarsus subequal to upper tibial spur and subequal to four tarsomeres combined. In male, terminal spur of protibia hooked inwardly at the tip.

R e m a r k s. The species seems to be closely related to *Ataenius punctipennis* but it may be easily distinguished from that species and from all other species in the group by the characters given in the key. The feature of elongate antennal club typical for Melolonthidae, occurs among Aphodiinae very seldom. It has been described for the first time in males of the Australian species *Podotenus williamsi* STEBNICKA & HOWDEN (1994) and represents an example of adaptative homoplasy appearing independently among various unrelated taxa. *A. longiclavus* is hitherto known only from the two typical specimens collected in Brazil.

***Ataenius onkonensis* sp.n.**

(Figs 16, 38-39))

Holotype male, Ecuador, Napo, Onkone, Gare Camp. 00.39S, 76.26W, 220 m, *terra firma* forest, along trail at night, under leaf litter, 3-8.X.1995, T.L. ERWIN, Ecuador Expedition, G.E. BALL & P. SHELLEY coll., in CMNO. Paratypes (8), same data as holotype, in CMNO, ISEA.

D e s c r i p t i o n. Length 3.9-4.3 mm. Body oblong-oval, moderately convex, shining black, legs reddish black. Head weakly gibbose medially, clypeal margin rounded on each side of shallow median emargination, laterally slightly arcuate toward right-angled, protruding genae; surface anteriorly minutely punctate without trace of rugulae, middle of head and vertex with fine, distinct punctures separated by one diameter or more. Pronotum strongly transverse, anterior angles rounded, sides arcuate toward rounded posterior angles; sides and base finely margined, marginal line smooth or inconspicuously crenulate, marginal setae scarce, minute or invisible; pronotal disc with fine, irregularly scattered punctures, lateral area of disc with mixture of minute to fine and moderate punctures separated by about one diameter, closest at anterior and posterior angles and inside lateral marginal groove. Scutellum narrowly triangular, impunctate. Elytra arcuate with strong basal bead, disc slightly convex, humerus with single epipleural denticle; discal striae 1-5 finely impressed, lateral striae slightly deeper with shallow, weakly crenating punctures; discal intervals flat, lateral and apical intervals convex, microreticulate, surface punctures indistinct or lacking, elytral margins smooth. Ventral sclerites strongly shiny; mesosternum shagreened, metasternal midline concave, disc smooth, impunctate; abdominal sternites finely fluted along sutures, fluting longer on sides than at middle, surface punctures fine at middle, moderate and deep laterally, separated by about one diameter, eroded disc of pygidium finely granular. All femora shining impunctate; posterior metafemoral line weak, incomplete; terminal spur of protibia straight in both sexes; meso- and metatibiae slender, metatibia apex with fringe of 6-7 short setae and slender spurs; basal tarsomere of metatarsus slightly longer than upper tibial spur and shorter than following tarsomeres together. In male, pronotum less densely punctate than in female; genitalia as in Figs 38-39.

A f f i n i t y. Medium sized species with external appearance similar to that of *A. guanacastae* sp. n., *A. depilis* and *A. plaumanni*, from which it differs by its strongly transverse pronotum, almost impunctate lateral intervals of the elytra and by the characters of the male genitalia.

***Ataenius platensis* (BLANCHARD) sensu lato**

(Figs 36, 40)

Oxyomus platensis BLANCHARD, 1846: 185.

Ataenius platensis HAROLD: 1876: 95; SCHMIDT 1922: 434; Hinton 1937: 177; CARTWRIGHT 1948: 149; 1974: 82-83; WOODRUFF 1973: 125-126; DELLACASA 1988: 279 (catalogue); GALANTE & STEBNICKA & VERDÚ 2003: 297. Described from Argentina (Buenos Aires). Type in MNHN.

Ataenius integer HAROLD, 1869: 86.- WOODRUFF 1973: 121 (as synonym of *platensis*); CARTWRIGHT 1974: 79-80; CHALUMEAU 1992: 202, fig. 16. Described from Brazil. Lectotype designated by CARTWRIGHT (1973), in MNHN.

Ataenius anticus FALL, 1930: 105.- HINTON 1937: 179; CARTWRIGHT 1948: 149 (as synonym of *platensis*). Described from USA (Arkansas). Type in MCZC.

A. granchacoensis BALTHASAR, 1947: 49.- CHALUMEAU 1992: 202 (a synonym of *integer*). Described from Paraguay (Gran Chaco). Holotype in BCP.

A. histrionicus BALTHASAR, 1947: 49.- CHALUMEAU 1992: 202 (as synonym of *integer*). Described from Paraguay (Alto Parana). Holotype in BCP.

Ataenius heyrovskyi BALTHASAR, 1960: 5-6.- CHALUMEAU 1992: 197, fig. 10. Described from Brazil (Rio Madeira). Holotype in ZSM. Paratypes (3), same data as holotype, in ZSM, **syn. n.**

Ataenius degallieri CHALUMEAU, 1990: 304-305.- Described from Brazil (Tucuruí Pará). Holotype in MNHN, **syn. n.**

M a t e r i a l e x a m i n e d. Type material of *integer*, *granchacoensis*, *histrionicus*, *heyrovskyi* and *degallieri* and 2500 other specimens. **Argentina** – Prov. Misiones, Iguazú; Prov. Santiago del Estero, El Charco; Prov. Formosa, Nueva Juarez, Clorinda N. P.; Prov. San Luis, Arizona; Prov. Entre Rios; Prov. Jujuy, Callilegua N. P.; Prov. Salta, El Rey N. P.; Buenos Aires. **Belize** – Cayo distr. Augustine. **Bolivia** – Beni; San Borja; Villa Montes; Rio Pilcomayo; Santa Cruz, Hotel Rio Selva, Hotel Flora & Fauna.. **Brazil** – (MG) Minas Gerais, São Bento do Abade; Paracatu; (MG) Cordisburgo, Faz. Pontinha 700 m; (MT) Mato Grosso, Rosario Oeste; Jacare; (MT)

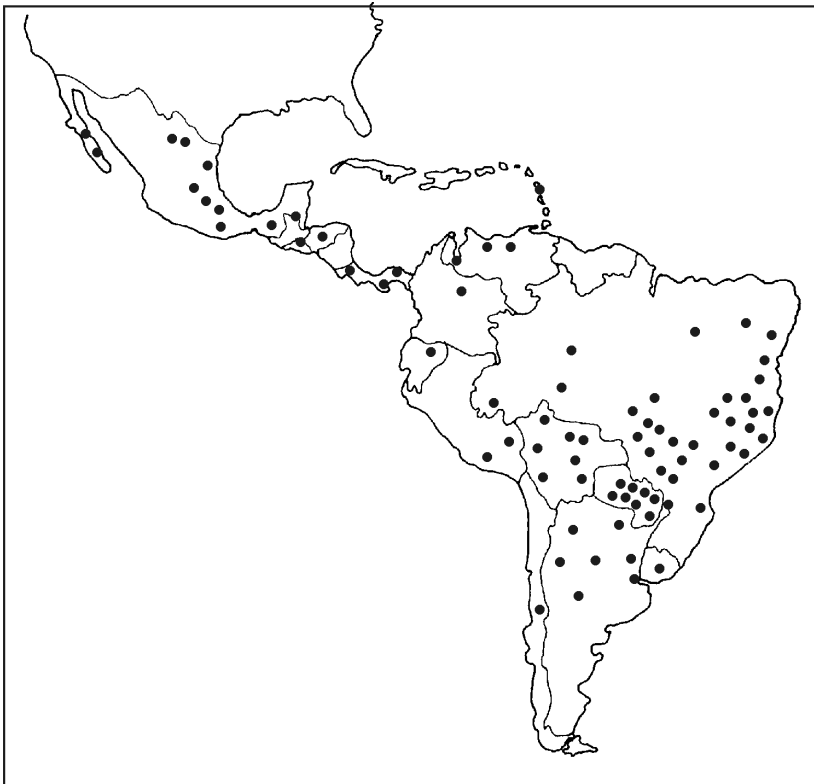


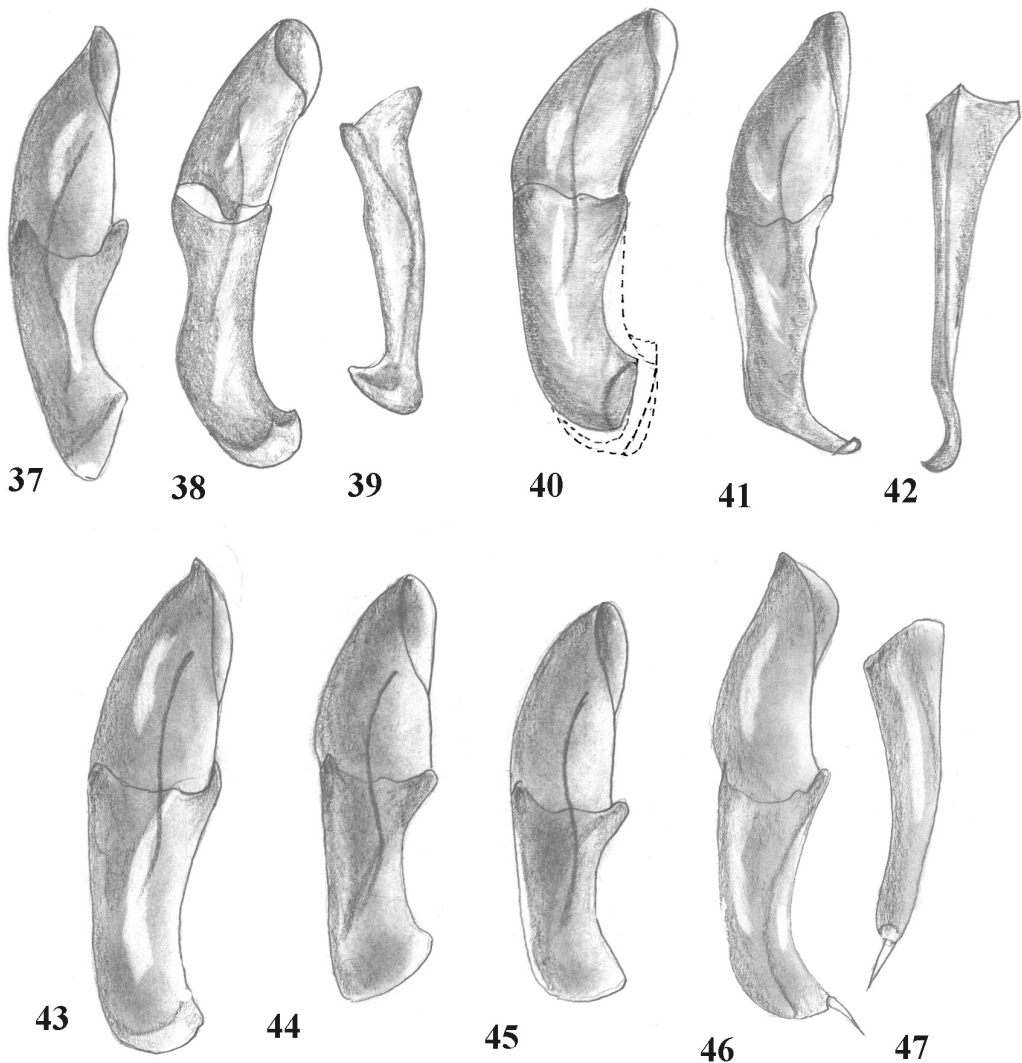
Fig. 36. Distribution of *Ataenius platensis* (BLANCH.).

Mun. Diamantino, Faz São João 520 m, 13.I.2001; Serra do Tombador 450 m, 11.V.2001, GENIER & VAZ-DE-MELLO (3 ex.identified as typical *A. degallieri*, in CMNO); (MS) Mato Grosso do Sul, Coxim; Campo Grande; Tres Lagoas; Selviria, Rio Abobral (AC) Acre, Rio Branco; (Pe) Pernambuco, Bnito; (SP) São Paulo, Piracicaba; Pirassununga; Agudos; São Paulo; São Roque; Itatuba; Flora Rica; (Ma) Maranhao, Pedrinhas; (Sc) Santa Catarina, Nova Teutonia; (Ro) Rondonia, Ariquemes; (RJ) Rio de Janeiro, Nova Friburgo; (Go) Goias, Goiania, Serrato; Rio Verde; Bella Vista de Goias, Cristianopolis; (Ba) Bahia, Caravelas; Encruzilhada; (RG) Rio Grande do Norte, São Roque. **Chile** – Chillan, Nuble Rio Pinto. **Colombia** – Bucaramanga. **Costa Rica** – Cartago N.P. **Ecuador** – Napo. **El Salvador** – Chorrros, Sta Tecla. **Guatemala** – Baja Verapaz. **Honduras** – Morazan. **Mexico** – Baja California Sur, Mulege, Notri; Cordoba, Cerro Colorado; Tamaulipas, Coahuila, Bocatoma, Gomez Farias, El Cielito Nuevo Leon, Monterrey; Rio Verde; SLP Chipinque Mesa; Chiapas, Teopisca; Oaxaca, Oaxaca; Varacruz, Los Tuxtlas. **Panama** – Cerro Campana; Las Cumbres. **Paraguay** – San Pedro; Rio Verde; Vaca Ihu; San Bernardino; Paraguari, Nat. Park Ibicuy; Alto Parana, Rio Aracay Bridge; Central, San Lorenzo; Itapua, Hohenau. **Peru** – Ayacuho La Mar; Madre do Dios, Puerto Maldonado. **Uruguay** – Rocha, Punto del Diablo. **Venezuela** – Zulia, Puerto Tara; Aragua, Maracay; Parupa, Gran Sabana. **West Indies** – Guadeloupe. Specimens are in all collections studied.

D i s t r i b u t i o n. Southeastern United States to Argentina (distribution in USA: see WOODRUFF 1973, fig. 273, and CARTWRIGHT 1974, fig. 22), Central and South America, West Indies (GALANTE & al. 2003), Fig. 36.

D i a g n o s t i c c h a r a c t e r s. Length 3.5-5.0 mm. Body elongate-oblong, shining, colour light brown, reddish brown to piceous, legs usually reddish. Clypeal edge in typical specimens slightly prominent but not angulate on each side of median emargination, in some specimens or populations margin is more broadly rounded and slightly arcuate toward nearly right-angled gena; clypeal surface more or less markedly wrinkled up to median gibbosity, punctures above fine, variable in density. Pronotum margined, sides fimbriate, setae moderately long, thin; surface punctures mixed minute to fine and moderate in size and very variably spaced, in some specimens moderate punctures widely scattered, in some close especially on sides, in other specimens or populations median anterior disc is uniformly finely punctate with few coarser punctures intermixed. Elytra moderately convex, parallel-sided, proportions variable, humeral denticles fine; striae moderately impressed, punctures crenate inner margins of flat or slightly convex intervals; surface of intervals smooth or with minute to fine, scattered punctures, lateral intervals not different. Ventral surface shining, glabrous, except mesosternal pubescence; metasternal disc usually concave along midline, surface finely punctate or impunctate; abdominal sternites always distinctly punctate on sides, medially with fine scattered punctures or smooth. Legs moderate in length; femora shiny, posterior femoral lines variable in length, short or half or more of the femoral length, occasionally complete but very fine; metatibia slender, apex fringed with 5-6 short setae, accessory spine minute or absent; basal tarsomere of metatarsus slightly longer than upper tibial spur and subequal to or longer than following three tarsomeres together. In male, terminal spur of protibia usually shorter and more acutely pointed than in female, slightly bent inward or downward, rarely distinctly curved; genitalia variable in shape and proportions (Fig. 40).

R e m a r k s. The variable nature of *Ataenius platensis* makes the naming of several forms from isolated specimens understandable. The large series of specimens examined from Argentina (terra typica!) provided the first opportunity to study the considerable variation within populations. No geographic corelation was noted in a huge material from other areas extending from Argentina to the United States. The name *A. integer* has long been synonymized with sympatric *A. platensis*. It is not possible to distinguish more than 20% of all specimens as either *platensis* or *integer*. The characters of the male genitalia are variable and can not be correlated with any constant external characters of specimens and with any geographical range. *A. heyrovskyi* BALTH. and *A. degallieri* CHAL. described from Brazil, bear mixed characters of *platensis-integer* and are indistinguishable among specimens of various populations of this complex. It is not excluded that there are hybrids on the whole area of distribution of these forms, and finally the DNA analysis may partially resolve the problem of populations or separate species in question. Because it is not possible to propose any



Figs 37-47. Male genitalia: 37 – *Ataenius lobatus* HORN, aedeagus in lateral view; 38, 39 – *A. onkonensis* sp. n., 38 – aedeagus in lateral view, 39 – left paramera ventrally; 40 – *A. platensis* (BLANCH.), aedeagus in lateral view (broken lines indicate range of variation); 41, 42 – *A. plaumanni* PETR., 41 – aedeagus in lateral view, 42 – left paramera dorsally; 43 – *A. pseudoclavatus* sp. n., aedeagus in lateral view; 44 – *A. pseudousingeri* GAL. et al., aedeagus in lateral view; 45 – *A. usingeri* HINT., aedeagus in lateral view; 46, 47 – *A. punctipennis* HAR., 46 – aedeagus in lateral view, 47 – left paramera dorsally.

useful descriptions under the mentioned names I consider them here to be synonymous with *A. platensis*. The specimens from various populations of *A. platensis* are similar to those of *A. castaniellus* and *A. koelleri* (see Remarks under these species).

The species was collected through all months in various habitats from sea level to about 1000 m, attracted to light, found in forest litter and in cattle dung. Larval stages were described by VERDÚ & GALANTE (1999).

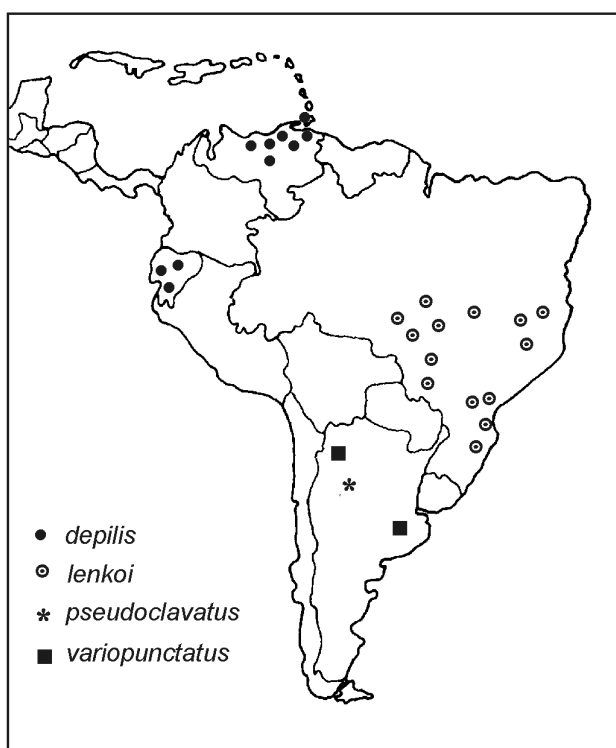


Fig. 48. Distribution of *Ataenius depilis* PETR., *A. lenkoi* PETR., *A. pseudoclavatus* sp. n., *A. variopunctatus* SCHM.

Ataenius plaumanni PETROVITZ

(Figs 16, 41-42))

Ataenius plaumanni PETROVITZ, 1973: 160-161.- DELLACASA 1988: 279 (catalogue).

Material examined. Holotype male, labeled „Brazil, Nova Teutonia, XI. 1971 F. PLAUMANN”, „*Ataenius plaumanni* m. PETROVITZ”, in MMU. Paratype female, same data as holotype, in MHNG.

Other specimens. (33). **Argentina** – Prov. Misiones, Iguazu Nat. Park, 25.XI.1990, S. & J. PECK (CMNO, ISEA). **Bolivia** – La Paz, Rio Tuichi, Chalalan 320 m, 10-20.VIII.1995, S. SPECTOR (USNM). **Brazil** – (MG) Viçosa, XI.1996, F. VAZ-DE-MELLO (ISEA); Barroso 700 m, IX.1960; (Pa) Pará, Rio Azul, 1000 m, X.1959; Palmeira, V.1964, F. PLAUMANN (USNM); Londrina, Mata Godoy, 29.XI.1964, J. LOPES (UNSM); (MT) Mato Grosso, Varzea Grande, Cuiaba, 7.IV.1972, W.H. WHITCOMB (FSCA); (Ro) Rondonia, VIII.1962, F. PLAUMANN (ISEA, USNM).

Distribution. South America (Fig. 16).

Diagnostic characters. Length 4.0-4.5 mm. Oblong-oval, moderately shiny, black, clypeal and lateral pronotal edge and legs reddish. Head moderate in size, clypeal margin widely rounded on each side of shallow median emargination and arcuate toward right-angled, prominent gena; surface with inconspicuous transverse rugulae, punctures on each side of median convexity slightly transverse, separated by one their diameter, those on vertex round, separated by two times their diameter. Pronotum transverse, margined, basal margin deeply grooved, anterior angles obtusely rounded, finely reflexed; side arcuate toward obtuse posterior angles, base sinuate, excised at posterior angles, lateral margin very finely crenate with minute apically dilated setae;

punctures on median anterior disc minute to fine, scattered, separated by 3-4 times their diameter, become increasingly larger and closer halfway to sides, contiguous along lateral margin. Elytra slightly arcuate with small, acute epipleural denticle; striae fine with fine punctures, discal intervals flat, lateral intervals convex and finely closely punctate. Ventral surface shiny; mesosternum shagreened; metasternal disc with impressed midline and slightly transverse punctures on sides; abdominal sternites fluted in anterior 1/5, surface punctures moderate in size, shallow, extending from side to side. All femora shiny, posterior line of metafemur strong, incomplete; tibiae slender, terminal spur of protibia straight in both sexes; tarsi subequal in length to tibiae; basitarsomere of metatarsus longer than upper tibial spur and subequal in length to following tarsomeres combined. Male genitalia as in Figs 41-42.

R e m a r k s. The typical morphotype of *A. plaumanni* is most close to that of *A. depilis* and *A. guanacastae* sp.n. but differs from these species by finer sculpture of the pronotal disc and ventral sclerites and the shape of aedeagus. As indicated on the labels, the species was taken from the cliffbase liverwort litter.

***Ataenius pseudoclavatus* sp. n.**

(Figs 43, 48)

Holotype male, Argentina, Prov. Santiago del Estero, November 1956, F.H.. WALZ, in USNM. Paratypes (3), same data as holotype, in ISEA, USNM.

D e s c r i p t i o n. Length 5.0-5.2 mm. Body elongate oblong, convex, almost opaque, colour dark castaneous to piceous, femora reddish brown. Head moderate in size, feebly gibbose medially, clypeal margin obtusely rounded on each side of deep median emargination, sides straight to right-angled genae; surface from anterior margin to frontal area distinctly transversely wrinkled, punctures of vertical band deep, separated by less than their diameter. Pronotum transverse, margined, basal margin deeply grooved, lateral and basal edge crenulate and fringed with slender, blunt setae separated by less than their lengths; surface slightly uneven, punctures close but very shallow, mixed minute and moderate to coarse, median anterior disc with minute to fine punctures separated by about one their diameter, moderate punctures increase in size and density from median disc to base and sides. Scutellum triangular, impunctate. Elytra convex, parallel-sided, epipleural denticle small; striae very fine, narrow, punctures inside very fine; intervals opaque, slightly raised medially, surface slightly uneven, microreticulate, lateral intervals not different. Ventral surface microreticulate, moderately shiny; mesosternum shagreened, meso-metasternal carina shiny; metasternal midline impressed, disc minutely punctate, lateral area irregularly punctate-wrinkled; abdominal sternites 4-5 with coarse, long fluting, surface closely punctate-wrinkled especially on sides, disc of pygidium deeply eroded and longitudinally strigose. All femora shiny; profemoral surface punctate, meso- and metafemora minutely punctate throughout, postfemoral lines complete; meso- and metatibiae slender, apex of metatibia with 8-9 short setae, without accessory spine; tarsal segments rather thick, basal tarsomere of metatarsus slightly longer than upper tibial spur and shorter than following three tarsomeres combined. In male, terminal spur of protibia slightly bent downwards; genitalia as in Fig. 48.

A f f i n i t y. *Ataenius pseudoclavatus* is very similar in overall appearance to *A. clavatus* but differs from that species by the following characters: clypeal margin rounded; punctures of pronotum coarser and closer, pronotal marginal setae longer and scarcer; elytral intervals opaque, slightly uneven; meso- and metafemora almost impunctate, tarsi more robust than in *A. clavatus*.

***Ataenius pseudousingeri* GALANTE & STEBNICKA & VERDÚ**

(Figs 44, 50)

Ataenius pseudousingeri GALANTE & STEBNICKA & VERDÚ, 2003: 295-296, figs 10, 19.

M a t e r i a l e x a m i n e d. Holotype male, labeled 'Mexico, Chiapas, Cinco Cerros 860 m, 31.V.1990, H.& A. HOWDEN', in CMNO and 325 paratypes.

Other specimens (27). **Guatemala** – Zacapa, 6 km W Teculután, La Palmilla, 5.VI.1991, H. & A. HOWDEN; Zacapa, 12 mi S San Lorenzo 510 m, 16.VI.1993, H. & A. HOWDEN (CMNO). **Mexico** – Chiapas, Cinco Cerros km 30 on Hwy 190, 1500 m, 8.VI.1989, H. & A. HOWDEN (CMNO, ISEA), Cinco Cerros, 19.VI.1989, S. TESTA & P.K. LAGO, El Chorreadero, N of Tuxtla Gutierrez, 13.VI.1989, P.K. LAGO & S. TESTA; 10 km W Tuxtla Gutierrez, 23.VI.1989, P.K. LAGO, E. ZUCARCO (MSUC, USNM), El Chorreadero, 8 km E Chiapa de Corzo 550 m, H. & A. HOWDEN (CMNO); Chorreadero, 26.VI.1990, R. TURNBOW (RTC), 2 km S Chicoasen, Rd to Mirador, 18.VI.1989, H. & A. HOWDEN (CMNO); Chicoasen 400 m, 30.V.1990, B. GILL; 2 km S Chicoasen, 16-18.VI.1989, P.K. & E.B. LAGO (PKLC), 2 km W Chicoasen, 30.V.1987, RATCLIFFE & JAMESON (UNSM); El Aguacero, 16 km W Ocozocoautla 680 m, 5.VI.1990, H. & A. HOWDEN (CMNO), Tapachula, 10.IV.2002, J.R. VERDU. (CEUA), Oaxaca, 1.5 mi E Zapilote, ca. Carr. Panam. 5.VI.1987, at light, W. WARNER (USNM), 5 mi W El Camaron, 20.IV.1969, H. & A. HOWDEN; El Camaron, 20.V.1969, H. & A. HOWDEN (CMNO).

D i s t r i b u t i o n. Central America (Fig. 50)

D i a g n o s t i c c h a r a c t e r s. Length 3.2-3.8 mm. The species is superficially very similar to *A. usingeri* HINTON (see diagnosis under that species) and at first thought seems to be a variant of that species, however, it differs from *A. usingeri* by having the body relatively smaller, the clypeal margin dentate or sharply angulate on each side of median emargination, the elytra lighter in colour, usually red or light castaneous, with deeper striae and coarser stria punctures. The male genitalia also differ in shape (Figs 44, 45). Both species are very common in Central America and occur sympatrically, often in the same habitat, time and place.

Ataenius punctipennis HAROLD

(Figs 17, 46-47)

Ataenius punctipennis HAROLD, 1868: 86.- SCHMIDT 1922: 439; DELLACASA 1988: 279 (catalogue); CHALUMEAU 1992: 197, fig. 7.

Ataenius subopacus CHAPIN, 1940: 24.- DELLACASA 1988: 281 (catalogue), **syn. n.**

Ataenius lindemannae BALTHASAR (in litteris): CHALUMEAU 1992: 204-205, fig. 7 (as synonym of *punctipennis*).

M a t e r i a l e x a m i n e d. *Ataenius punctipennis*: Lectotype (Colombia) designated by CARTWRIGHT (1973), in MNHN. *A. subopacus*: Holotype female, labeled 'Grenada BWI, 20.I.36', 'Sta 150 BLACKWELDER', '*Ataenius subopacus* det. CHAPIN 1939', 'Type No 53323 USNM'.

Other specimens (272) **Argentina** – Prov. Córdoba, 4 km NE Cruz del Eye, 20.II.1982, H. & A. HOWDEN (CMNO); Carcarana river (USNM); Prov. Misiones, Jardín América, Salto Tabay, 22.XII.1990, S. & J. PECK; Prov. San Luis, 18 km S Arizona 250 m., 18-23.I.1982, H. & A. HOWDEN; Prov. Santiago del Estero, Termos de Río Hondo, 16.II.1982, H. & A. HOWDEN (CMNO); Santiago del Estero, El Charco, Jan. 1959, F.H. WALZ (numerous specimens in USNM); Prov. Chaco, Napenay bus station, 15.I.1991, S. ENDRÖDY-YOUNGA (TMP); Prov. Salta, Viñaco 15 km S El Carril, 12.II.1982, H. & A. HOWDEN (CMNO). **Brazil** – (Rr) Roraima, Surumu, III.1972, F. PLAUMANN (ISEA). **Colombia** – Ibaque, 1877 (ZMHB). **Venezuela** – Caracas, coll. FELSCHKE Kauf. 20, 1918 (SMTD), coll. THIEME (ZMHB); Edo Miranda, Ocumare del Tuy 200 m; Edo Aragua, Cagua, 10.X.1960, leg. BORDON (MHNG); Aragua, 17 km S Las Tejas 1300 m (ISEA); Edo Guarico, Chaquarama (USNM); Guarico, 12 km W Valle de la Pascua, 21-22.VI.1996, H. & A. HOWDEN (CMNO); Guarico, 12 km S Calabozo. 6-12.II.1969, P. & P. SPANGLER (USNM) Bolívar, 35 km SW Puerto Ordaz, 21.VI.1996, S. & J. PECK; Bolívar, 20 km SW Ciudad Bolívar, 14.VII.1998, H. & A. HOWDEN (CMNO); **West Indies** -Trinidad: Tunapuna, 11-13.VIII.1969, H. & A. HOWDEN (CMNO).

D i s t r i b u t i o n. South America and West Indies (recorded from Grenada and Grenadines by CHAPIN 1940, under *A. subopacus*), (Fig. 17).

D i a g n o s t i c c h a r a c t e r s. Length 3.5-4.0 mm. Body oblong oval, alutaceous, colour dark brown to piceous, apex of elytra and legs reddish, elytra finely setaceous. Head rather small, weakly gibbose at middle, clypeal margin rounded, surface with transverse rugulae, punctures of vertical area fine, separated by 1 diameter. Pronotum transverse, sometimes with trace of median longitudinal line, sides finely crenate, fringed with blunt setae separated by their lengths, base margined; surface punctures moderate, nearly equal in size, everywhere distributed, generally separated by one their diameter. Elytra parallel-sided, subopaque, epipleural humeral denticle fine; striae and stria punctures very fine; intervals convex, microreticulate with rows of fine close punctures along striae, discal intervals 1-4 medially with few scattered punctures, lateral intervals closely punctate. Ventral sclerites alutaceous; metasternum slightly concave, closely punctate from side to side; abdominal sternites finely fluted along sutures and finely closely punctate from side to side, punctures same size as those of metasternum, bearing minute setae. All femora microreticulate; metatibia slender, apex without accessory spine, fringed with short setae; basal tarsomere of metatarsus longer than upper tibial spur and subequal to four tarsomeres combined. In male, terminal spur of protibia hooked inwardly at the tip; genitalia as in Figs 46-47.

R e m a r k s. This very distinctive species seems to be most closely related to *A. longiclavus*, however, the male genitalia of the latter species were unavailable for study. It differs from *A. longiclavus* by having the pronotal marginal line significantly finer and punctures closer, and the elytral intervals with close punctures. The specimens were collected in woodland on sand and taken from the cloud forest litter.

Ataenius setiger BATES

(Fig. 50)

Ataenius setiger BATES, 1887: 98.-DELLACASA 1988: 226 (catalogue); DELOYA 1994: 53 (nota); GALANTE & STEBNICKA & VERDÚ 2003: 294.

Ataenius pseudohirsutus CARTWRIGHT, 1974: 37-38. **syn. n.**

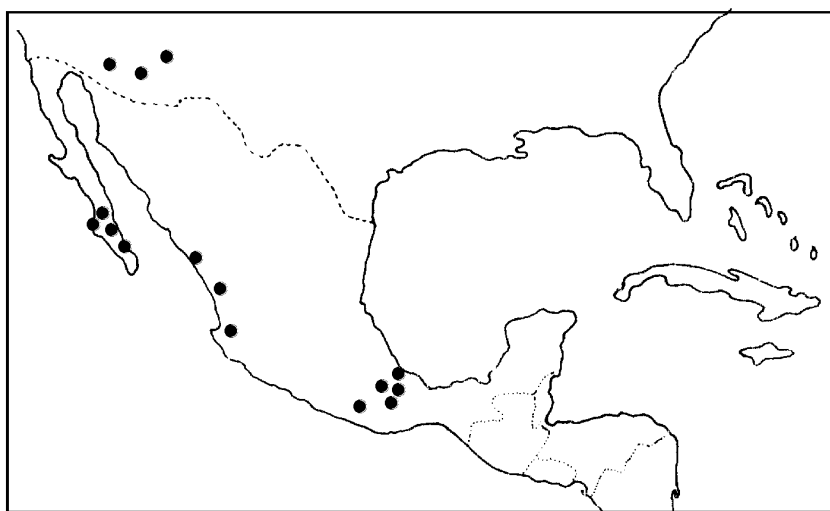
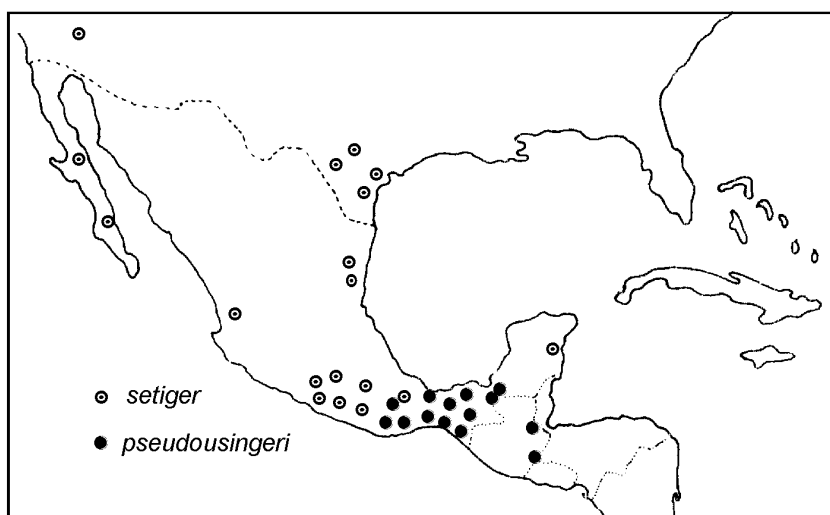
T y p e d a t a. *Ataenius setiger*: described from Mexico (Chilpacingo, Cuernavaca, Aca-pulco). Type in NHML.

M a t e r i a l e x a m i n e d. *Ataenius pseudohirsutus*: Holotype male, labeled 'Austin, Texas, June 29, coll.H. SOLTAU', No 71738 USNM; paratypes (2) – labeled "Texas, Sinton, Welder Wildlife Found. 3 V.11967, A. & M. BLANCHARD", in CMNO; (7) – 1 – Tex. Zavalla Co. Nueces Riv. 1.VII.1901, F.C. PRATT; 1 – Uvalde Tex., 18-20.VI.1933, WICKHAM; 2 – Brownsville Tex., WICKHAM; 2 – Mex. S.L.P. El Salto Falls, 23-24.VI.1965, O.S. FLINT, in USNM.

Other specimens (94). **Mexico** – Baja Calif. Sur, Notri, 18 km S Loreto, 13.VIII.1992, 2 km S Mulege, 14.VII.1992, H. & A. HOWDEN (HAHC); Puebla, Tehuacan, Altepexi, 1125 m, M. MORON (ISEA); Puebla, Tehuixtla, 15.VIII.1971, B. RATCLIFFE (USNM); Quintana Roo, 5300 ft, 17 mi E Landa de Matamoros, 29.V.1973, A. NEWTON (USNM); Guerrero, 43 km NW Ixtapa, 17.VII.1985, T. TURNBOW (FSCA, RTC, ZMHB); Nayarit, Tepic (ZMHB); Tamaulipas, Cd Victoria, 29.IV.1963, L. BALDERAS (USNM); Veracruz, Lake Catemaco, 24-25.V.1969, H. & A. HOWDEN (HAHC). **USA** – Arizona, Sacaton, Summer 1995, L.D. CHRISTIANSON (USNM).

D i s t r i b u t i o n. USA (Arizona, Texas: see CARTWRIGHT 1974, fig. 9 under *A. pseudohirsutus*) Mexico (Fig. 50).

D i a g n o s t i c c h a r a c t e r s. Length 3.8-4.6 mm. Oblong, convex, piceous, moderately shiny. Clypeal margin obtusely rounded on each side of deep median emargination. Pronotal surface with mixed fine and coarse, shallow punctures generally separated by about twice their diameters; lateral setae moderately long, almost transparent. Elytral striae fine, deep, punctures slightly crenating inner margins of intervals; intervals weakly convex, minutely alutaceous, with row of close minute punctures near each margin, laterally and over apical declivity the punctures bear very fine short erect setae; sculpture of elytra variable, in some specimens punctures and setae distinct, in some elytra almost hairless. The male genitalia do not differ from those of *A. hirsutus* (Fig. 24).

Fig. 49. Distribution of *Ataenius hirsutus* HORN.Fig. 50. Distribution of *Ataenius setiger* BATES, *A. pseudousingeri* GAL. et al.

R e m a r k s. The species is very similar to *Ataenius hirsutus* and differs from that species only slightly by its significantly shorter and scarcer setae on the elytra. The individual variation in both species is very advanced, mostly in the shape of head and in the elytral sculpture. Collected to light traps in open meadows.

***Ataenius variopunctatus* SCHMIDT**

(Fig. 48)

Ataenius variopunctatus SCHMIDT, 1922: 102.- DELLACASA 1988: 282 (catalogue).

M a t e r i a l e x a m i n e d. Holotype (sex undetermined) labeled „Argentina, Prov. Buenos Aires”, “*Ataenius variopunctatus* Type”, in NRS.

Specimens (5). **Argentina** – Prov. Buenos Aires, Rosas, J. DAGUERRE (ISEA); Prov. Salta (no additional data) (CMNO, FMLT);

D i s t r i b u t i o n. Argentina (Fig. 48).

D i a g n o s t i c c h a r a c t e r s. Length 4.9-5.2 mm. Body elongate oblong, convex, moderately shiny, piceous black, apex of elytra reddish. Head gibbose medially, clypeal margin obtusely rounded on each side of deep median emargination, sides straight to right-angled, prominent genae; surface with inconspicuous transverse rugulae, median gibbosity minutely punctate, punctures of vertical band fine, deep separated by one their diameter. Pronotum transverse, margined, basal margin grooved, lateral edge crenulate, sides and posterior angles with fringe of thick, blunt setae separated by less than their lengths, basal setae shorter; surface with evenly distributed, extremely minute punctures and irregularly spaced, moderate punctures separated by 1-3 times their diameters. Elytra parallel-sided, humeral denticle small obtuse; striae narrow, distinctly impressed, stria punctures slightly crenate margins of intervals; intervals flat, only slightly convex apically, surface with inconspicuous minute punctures. Ventral sclerites shiny, metasternal midline impressed, disc and lateral area impunctate; abdominal sternites finely fluted in anterior one-fourth, surface punctate from side to side, punctures at middle finer, on sides coarser; disc of pygidium deeply eroded and longitudinally strigose. All femora shiny; profemur punctate, meso- and metafemora smooth, posterior lines short; meso- and metatibiae slender, apex of metatibia with 6-7 short setae; tarsi relatively short, tarsomeres thick, basal tarsomere of metatarsus slightly longer than upper tibial spur and subequal to following three tarsomeres combined. In male, terminal spur of protibia slightly bent downwards; genitalia similar in shape to those of *A. clavatus* (Fig. 13).

R e m a r k s. *Ataenius variopunctatus* was hitherto known only from its original description. The species is very similar to *A. clavatus* and *A. pseudoclavatus*, sharing with these species an overall appearance, the pronotal fringe of thick, truncate setae and the area of distribution. This rare species is most likely associated with ants, as one of the specimens examined was glued on card together with a specimen of *Solenopsis* sp.

Ataenius usingeri HINTON

(Figs 34, 45)

Ataenius usingeri HINTON, 1937: 191-193, figs 30-34 (in part).- DELLACASA 1988: 213 (catalogue); DELOYA 1994: 53 (nota); GALANTE & STEBNICKA & VERDÚ 2003: 295, fig. 18.

T y p e d a t a. Described from Mexico (Temascaltepec, Tejupilco, 3960 ft); holotype not found in USNM, location unknown.

M a t e r i a l e x a m i n e d. Paratype (sex undetermined), labeled ‘Mexico, distr. Temascaltepec, Tejupilco, alt. 3960 ft, VI. 1933, H.F. HINTON, R.L. USINGER’, in USNM.

Other specimens (626). **Belize** – Cayo distr., San Ignacio, 23.V.1886, J. SPANGLER (USNM); Cayo Distr., Maya Mountain Lodge, 19.VII.1993, V. GOLFA (FSCA). **Costa Rica** – La Pacifica nr Cañas, 22-26.V.1984, E. RILEY & D. RIDER & D. LEDOUX (FSCA). **El Salvador** – La Libertad, 3.V.1971, 20 km E La Libertad, 3.V.1971, Santa Tecla, 11.VI.1971, H.& A. HOWDEN (CMNO); Ahuachapan Nat. Pk, El Imposible, 4.V.2000, SMITH & OCAMPO (UNSM). **Guatemala** – Peten Itza, 1967 (ISEA); Zacapa, 5 km SW Rio Hondo, 11.VI.1993, 2 km W Rio Hondo 300 m, 14.VI.1993, Zacapa, 12 mi S San Lorenzo 510 m, 16.VI.1993, Zacapa, 6 km W Tecolutan, La Palmilla, 4.VI.1981, H.& A. HOWDEN (CMNO). **Honduras** – Olancho Nat. Park, Sierra de Agalta 100 m, 1-9.VI.1995, S. WELLS (ISEA). **Mexico** – Veracruz, Hueyapan, 5.VIII.1971, B. RATCLIFFE (ISEA); Veracruz, Poza Rica, 2.VI.1987, leg. MUELLER; Yucatan, 3.V.1984, J. WAPPES (PSC); Yucatan, 2 km of Chichenitza, 15.VI.1990, R. TURNBOW, Chichenitza, 10-11.VI.1983, E. RILEY, Yucatan, 1 km S Xcalacoop, 26.V.1984, R. TURNBOW, 11.VI.1983, E. RILEY, Yucatan, 12 km N Piste, 24.V.1984, R. TURNBOW (FSCA, PSC, RTC), 20.VI.1983, S.& J. PECK (CMNO); Chiapas, El

Aguacero, 16 km W Ocozocoautla 680 m, 4-5.VI.1990, H. & A. HOWDEN; Chiapas, Laguna Belgica, 16 km W Ocozocoautla 970 m, 13.VI.1990, 24.VI.1989, H. & A. HOWDEN; Chiapas, Chorreadero, 8 km E Chiapa de Corzo, 7.VI.1989, H. & A. HOWDEN (CMNO); Chorreadero, Cnyn 5 mi E Chiapa de Corzo, 29.V.1987, RATCLIFFE & JAMESON (UNSM); Chorreadero, 3.VI.1991, B. RATCLIFFE, J. ASHE & M. JAMESON (CEUA, UNSM); Chiapas, 2 km W Chicoasen, 30.V.1987, RATCLIFFE & JAMESON (UNSM); Chiapas, 2 km S Chicoasen, Rd to Mirador, 18.VI.1989, H. & A. HOWDEN; Chiapas, 22 km S Trinitaria, 5.VI.1969, H. & A. HOWDEN (HAHC); 30 km W Tuxtla Gutierrez 820 m, 4.VI.1990, B.D. GILL (CMNO), 20 km W Tuxtla Gutierrez, 23.VI.1989, P.K. LAGO & E. ZUCCARO (MSUC); Sumidero Nat. Park, 14.VI.1989, P.K. LAGO & S. TESTA (MSUC); Chiapas, El Rincon Rt 17, 13-14.V.1969 H. & A. HOWDEN (CMNO); Campeche, Chicanna 10 km W Xpujil, 300 m, 13.VII.1983, S. & J. PECK, 10 km N Escarcega, 22.VII.1983, S. & J. PECK; Tamaulipas, El Cielito nr Eucino, 28-30.VII.1985, E.G. & R.J. RILEY (PSC), Rio Frio near Gomez Faria, 6.VI.1982, S. PECK & M. KAULBARS, (CMNO, ISEA), Cd Victoria, Rancho La Rojaj, 30.VIII.1981, RATCLIFFE & MESSENGER (UNSM); Oaxaca, El Camaron, 5 mi W El Camaron, 20.IV.1969, H. & A. HOWDEN (CMNO); Cuicatlan, 3.VII.1999, E. GALANTE (CEUA); Morelos, Zacatepec, 17.VI.1958, D. CARDIAZ (USNM) Puebla, Tlaltizapan, Chapultepec; Cotaxtla, 17.VI.1958, D. CARDIAZ (USNM); 20 mi S Izucar Matamoros, 8-9.VI.1979, H. & A. HOWDEN (CMNO); Tehuacan, Altepexi 1125 m, M. MORON (CEUA); Jalisco, 8.6 km N Chamela, 18.VII.1987, R. TURNBOW, S.L.P. 10 km E Cd Valles, 2.VII.1988, 1 km S Tamazunhale, 3.VI.1987, R. TURNBOW, El Salto Falla, 26.V.1979, E. RILEY (FSCA, ISEA, PSC); Quintana Roo, 18 km N Carrillo, 1.VI.1984, R. TURNBOW, 1 km N Coba, 31.V.1987, D. RIDER & E. RILEY (ISEA, PSC, RTC). **Panama** – (no additional data) (ISEA).

D i s t r i b u t i o n. Central America (Fig. 34).

D i a g n o s t i c c h a r a c t e r s. Length 3.6-4.5 mm. Body parallel-sided, shining black or piceous. Clypeal margin usually widely rounded on each side of median emargination, side straight toward right-angled gena; surface transversely wrinkled up to median convexity, vertical area finely punctured. Pronotum with sides and base margined, lateral edge fringed with slender, apically truncate setae; surface punctures of two types, fine punctures evenly distributed, equally spaced on median anterior disc, coarse punctures concentrated on sides and along base, lacking on disc, in some specimens very few moderate punctures scattered on disc. Elytra with distinct basal bead and fine humeral denticles; striae deep, striae punctures crenate margins of intervals; intervals convex, finely scarcely punctate or impunctate, lateral intervals not different. Metasternal disc finely punctate, abdominal sternites with moderate fluting along sutures and punctures concentrated mostly on sides. Profemoral surface shining, punctate; meso- and metafemora impunctate, posterior line of metafemur incomplete, variable in length; metatibia apically with very fine accessory spine and one intervening seta before apical spur; basal tarsomere of metatarsus subequal in length to upper tibial spur and to following four tarsomeres combined. In male, penultimate abdominal sternite shorter than in female; genitalia as in Fig. 45.

R e m a r k s. *Ataenius usingeri* is most closely related to *A. pseudousingeri* (see diagnosis under that species). The moderate to coarse punctures around the smoother, finely punctate median anterior disc of the pronotum give it an appearance similar also to *A. abancay* sp. n. (see Remarks under that species) and to *A. stephani* CARTW. from *A. strigatus*-group, (STEBNICKA & LAGO 2005) but it differs from the latter species by its smaller size and the pronotal coarse punctures markedly denser. This little known species appears to be very common in Mesoamerica, collected mostly in Summer to black light traps, found in sheep droppings and in leaf litter of the thorn shrubs.

Cladistic analysis

The purpose of the current analysis is essentially to examine relationships among 27 species of the *Ataenius aequalis-platensis* group forming ingroup. Characters were polarized using the genus

Ataeniopsis PETR. (STEBNICKA 2003b) and *Ataenius nugator*-group HAROLD (STEBNICKA 2001) as outgroup taxa. Character states for these taxa are listed below, the data matrix constructed from these characters is presented in Table I. The data matrix was analysed using PAUP* (SWOFFORD 2000), the trees were reviewed using WinClada (NIXON 1999). All characters were parsimony informative and equally weighted, the multistate characters were run unordered. The parsimony analysis produced 100 fundamental cladograms of the length $L = 115$, consistency index $CI = 0.339$, retention index $RI = 0.555$ and rescaled consistency index $RC = 0.188$. The trees optimized in ACCTRAN were subsequently evaluated using a bootstrap method with 100 likelihood replicates. The majority-rule consensus tree resulting from bootstrap heuristic search is shown on Fig. 51.

Table I

Character matrix for the cladistic analysis of *Ataenius aequalis-platensis* group

Taxa	Character states
	11111111122222222223333 123456789012345678901234567890123
outgroup <i>Ataeniopsis</i>	00000000000000000000000000000000
outgroup <i>Ataenius nugator</i> -gr.	010000000000000001000000020201000
<i>aequalis</i>	110000100122110100000100202001110
<i>clitellarius</i>	100110100111100100010100001000101
<i>plaumanni</i>	110000010010000101011010101001000
<i>caicarae</i> sp. n.	110000000111100100000100001101110
<i>depilis</i>	111000000011000101001010101010000
<i>desertus</i>	100111100011100110010101001001001
<i>guanacastae</i> sp. n.	110000100010010101111000011000000
<i>onkonensis</i> sp. n.	111000000000000101010100001001000
<i>guriensis</i> sp. n.	1100001001010101000011100100001100
<i>hirsutus</i>	110100100111100111100101001000000
<i>setiger</i>	110100100111100111100101001000000
<i>punctipennis</i>	010000001001110111100101101000110
<i>platensis</i> sensu lato	010000000222100100000100001000001
<i>longiclavus</i>	01000000001111000001001010001??
<i>variopunctatus</i>	010000000111100100000100001000001
<i>borjae</i> sp. n.	011000000000100000000100000000100
<i>cochabambae</i> sp. n.	011000000000100000000100000000000
<i>castaniellus</i>	010000000110100100000101001000001
<i>abancay</i> sp. n.	010000000011100100000100001010001
<i>lobatus</i>	010001000110100100000100001000001
<i>pseudousingeri</i>	010000000011100100000100001010001
<i>usingeri</i>	000000000011100100000100001010001
<i>koelleri</i>	010000000100100100000100000000001
<i>languidus</i>	020010000110000100000101000000001
<i>clavatus</i>	000000000111110100001010111110001
<i>lenkoi</i>	111100111001000100000100110100000
<i>pseudoclavatus</i> sp. n.	010100100011100110100101000000101

Character states used in the cladistic analysis

Scores for character states: plesiomorphic=0; apomorphic=1; variable=2; unknown=?.

Body form: 1 – (0) parallel (1) not parallel. **Head:** 2 – clypeal margin: (0) denticulate, (1) not denticulate, (2) variable; 3 – clypeal wrinkles: (0) present, (1) absent; 4 – epistome

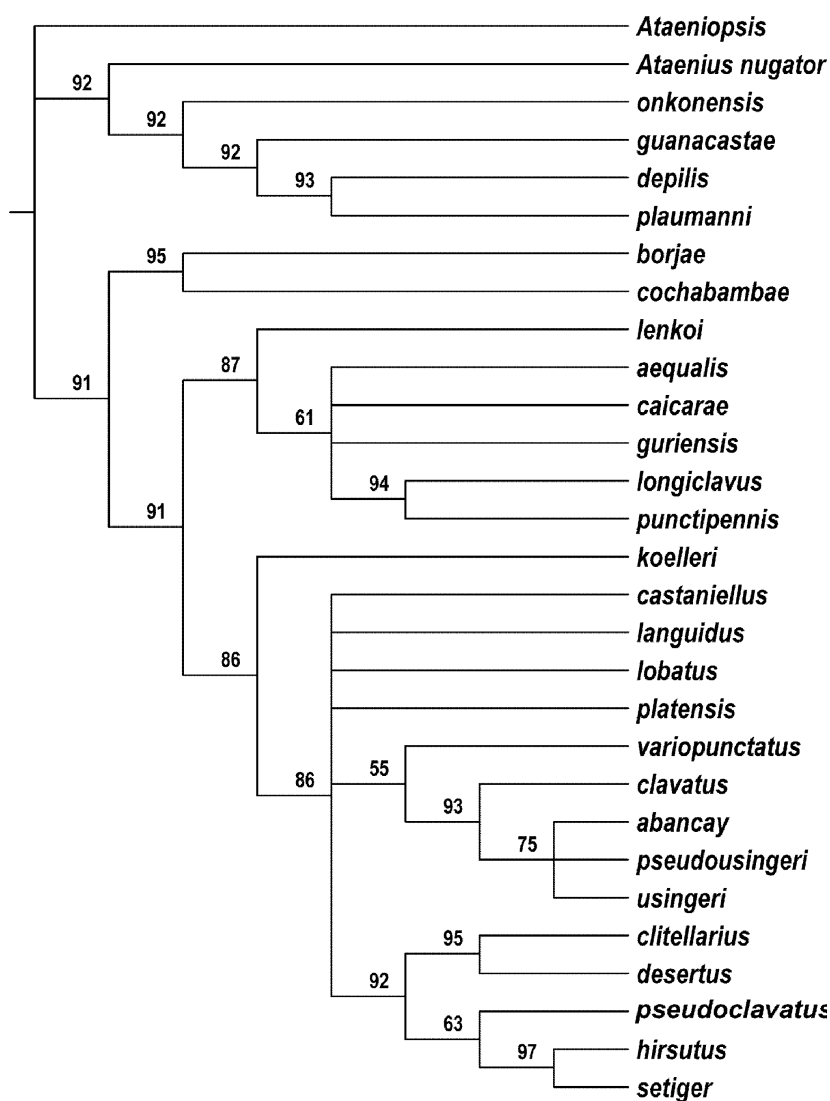


Fig. 51. Hypothetical relationship among species of *Ataenius aequalis-platensis*-group. Majority-rule consensus cladogram from 100 MPTs evaluated by bootstrap method with 100 likelihood replicates.

punctures: (0) fine, (1) coarse; **5** – terminal segment of maxillary palpus: (0) cylindrical, (1) enlarged. *Pronotum*: **6** – basal lobe: (0) absent, (1) present; **7** – lateral marginal groove: (0) shallow (1) deep; **8** – posterior angles: (0) rounded, (1) truncate; **9** – pronotal punctation types: (0) two types, (1) one type; **10** – median anterior disc punctation types: (0) one type, (1) two types, (2) variable; **11** – lateral punctures: (0) fine, (1) moderate to coarse; **12** – median anterior disc punctures (0) scattered, (1) close, (2) variable; **13** – lateral marginal fringe of setae: (0) minute or invisible, (1) moderate to long. *Elytra*: **14** – surface: (0) shining, (1) opaque; **15** – intervals: (0) flat, (1) convex medially; **16** – interval lateral crenations: (0) indistinct, (1) distinct; **17** – discal intervals punctures: (0) absent, (1) present; **18** – lateral intervals punctures: (0) absent or scattered, (1) distinct close; **19** – elytral setation: (0) absent, (1) present. *Metasternum*: **20** – mesometasternal carina: (0) short, (1) long; **21** – group of punctures at mesocoxae: (0) absent, (1) present; **22** – metasternal disc: (0) not concave, (1)

concave; **23** – punctures on disc: (0) absent or fine, (1) coarse. *Abdomen*: **24** – abdominal setae: (0) absent, (1) present; **25** – punctures at middle of sternites: (0) absent, (1) present, (2) variable. *Legs*: **26** – profemur punctures: (0) scattered, (1) close; **27** – metafemur posterior line: (0) absent, (1) present, (2) variable; **28** – metafemur punctures: (0) absent, (1) present; **29** – metatibia accessory spine: (0) absent, (1) present; **30** – metatarsal basitarsomere: (0) longer than upper tibial spur, (1) equal or shorter than upper tibial spur. *Male*: **31** – terminal spur of protibia: (0) straight, (1) sinuate or hooked; **32** – genitalia, filamen at apex of parameres: (0) absent, (1) present; **33** – genitalia, parameres before apex: (0) narrowed, (1) not narrowed.

Although the cladistic analysis produced a fully resolved tree, it is based mostly on homoplastic characters. Four species: *Ataenius onkonensis* + *A. guanacastae* + *A. depilis* + *A. plaumanni* together with outgroup taxon *A. nugator*-group form an “outgroup node” (92% bootstrap support) suggesting that all these species should be included to the *A. nugator*-group (STEBNICKA 2001), however, they share with that group the only character of the rugosely punctured lateral elytral intervals, while the characters of their male genitalia are quite different and not congruent with external characters. The main clade (91% bootstrap support) includes 23 species sharing the synapomorphy of the pronotal lateral margin fringed with setae. Within this clade, 21 species (91% bootstrap support) share the synapomorphy of unequally punctured median anterior disc of the pronotum (which reverses in the trichotomy of *A. abancay* + *A. usingeri* + *A. pseudousingeri*). The most basal clade (86% bootstrap support) includes 15 species sharing similar characters of the male genitalia of the *platensis*-type with almost parallel-sided parameres (which reverse in *A. hirsutus* + *A. setiger*). Other characters of external morphology are homoplastic and occur in various combinations in this group like as in the other species-groups of *Ataenius*.

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